January 1975 Number 365-Part I

Solar-Geophysical Data prompt reports

Data for December 1974–November 1974

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / ASHEVILLE, N.C.

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Solar - Geophysical Data

NO. 365 JANUARY 1975

Part I (Prompt Reports)

DATA FOR
DECEMBER 1974
NOVEMBER 1974

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 365

Issued in two parts

Hope I. Leighton, Editor

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Solar - Terrestrial Data Services Division

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																	365A 26	

Note: The Part Number (A = Part I, B = Part II) and page number have been added to the issue number beginning with Issue No. 363.

SGD 365 Part I (Prompt)

DECEMBER 1974 DATA

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For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

DECEMBER 1974

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS).

09/0423Z Boulder 090420Z Magstorm begins gradually at 09/0308Z.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions: Location Lat-Long	Active Regions: No. of Flares Total	Active Regions: No. of Flares M	Active Regions: No. of Flares X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
336	02	01	00	82	3	NO SPOTS	0	0	0		02	NONE		SOLQUIET MAGQUIET
337	03	02	00	81	18	NO SPOTS	0	0	0		03	NONE		SOLQUIET MAGALERT 05/10
338	04	03	00	79	9	NO SPOTS	0	0	0		04	NONE		SOLQUIET MAGALERT 05/10
339	05	04	00	77	11	NO SPOTS	0	0	0		05	NONE		SOLQUIET MAGALERT 05/10
340	06	05	44	75	3	N05E05 N07W10 S15W07	0 0 0	0 0 0	0 0 0		06	ALL GROUPS	Q	SOLQUIET MAGALERT 06/10
341	07	06	17	74	5	N05W02	0	0	0		07	N05W02	Q	SOLQUIET MAGALERT 07/10
342	08	07	00	73	7	NO SPOTS	0	0	0		08	NONE		SOLQUIET MAGALERT 08/10
343	09	08	00	72	8	NO SPOTS	0	0	0		09	NONE		SOLQUIET MAGALERT 09/10
344	10	09	00	72	26	NO SPOTS	0	0	0	MINOR GEOMAGNETIC STORM IN PROGRESS	10	NONE		SOLQUIET MAGALERT 10/13
345	11	10	34	73	16	N11E30 N14W20	0 0	0 0	0 0	MINOR GEOMAG. DISTURBANCE CONTINUES	11	ALL GROUPS	Q	SOLQUIET MAGALERT MINOR 11/13
346	12	11	32	79	15	N11E17	1	0	0	MINOR GEOMAG. DISTURBANCE CONTINUES BUT IS SUBSIDING	12	N11E17	C	SOLQUIET MAGALERT MINOR 12/14
347	13	12	33	80	16	N10E03 N13E72	4 0	0 0	0 0	MINOR MAGNETIC DISTURB. CONTINUES	13	ALL GROUPS	Q	SOLQUIET MAGALERT MINOR 13/14
348	14	13	57	81	11	N11W11 N13E58 N13W60	0 1 0	0 0 0	0 0 0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	14	N11W11 N13E58 N13W60	Q Q Q	SOLQUIET MAGALERT MINOR 14
349	15	14	40	81	11	N11W24 N13W46	1 3	0 0	0 0	THE MAGNETIC DISTURBANCE HAS DECREASED	15	N11W24 N13W46	Q Q	SOLQUIET MAGNIL
350	16	15	52	86	9	N11W37 N13E33	2 0	0 0	0 0		16	N11W37 N13E33	Q Q	SOLQUIET MAGQUIET
351	17	16	51	91	5	N12W49 N13E18 S10W17	2 0 0	0 0 0	0 0 0		17	N12W49 N13E18 S10W17	Q Q Q	SOLQUIET MAGQUIET
352	18	17	45	91	8	N13W63 N13E06 N05E78	3 1 0	0 0 0	0 0 0		18	N13W63 N13E06 N05E78	Q Q Q	SOLQUIET MAGQUIET
353	19	18	60	93	20	N13W74 N13W06 N07E63 S15W41 N08E25	0 2 0 0 0	0 0 0 0 0	0 0 0 0 0		19	N13W74 N13W06 N07E63 S15W41 N08E25	Q Q Q Q Q	SOLQUIET MAGALERT 19/23
354	20	19	60	95	22	N13W90 N13W21 N07E48 S15W57 N08E09	0 0 1 1 0	0 0 0 0 0	0 0 0 0 0		20	N13W90 N13W21 N07E48 S15W57 N08E09	Q Q Q Q Q	SOLQUIET MAGALERT 20/23
355	21	20	52	90	20	N13W33 N05E37 S15W71 N07W02	0 0 0 0	0 0 0 0	0 0 0 0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	21	N13W33 N05E37 S15W71 N07W02	Q Q Q Q	SOLQUIET MAGALERT 21/23
356	22	21	62	89	12	N14W46 N07E24 N08W16 N04W12 N11E07	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0		22	N14W46 N07E24 N08W16 N04W12 N11E07	Q Q Q Q Q	SOLQUIET MAGALERT 22/23
357	23	22	35	93	12	N13W61 N06E09 N07W26	0 1 0	0 0 0	0 0 0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	23	N13W61 N06E09 N07W26	Q Q Q	SOLQUIET MAGALERT MINOR 23
358	24	23	35	86	13	N13W74 N07W04 N06W40	0 1 1	0 0 0	0 0 0		24	N13W74 N07W04 N06W40	Q Q Q	SOLQUIET MAGNIL
359	25	24	12	83	11	N06W27	0	0	0		25	N06W17	Q	SOLQUIET MAGQUIET

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

DECEMBER 1974

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
360	26	25	12	82	7	N06W29	1	0	0		26	N06W29 HYDER FLARE	C	SOLQUIET MAGQUIET
361	27	26	14	78	14	N06W42	2	0	0		27	N06W42	Q	SOLQUIET MAGQUIET
362	28	27	21	77	14	N05W56 N16W25	1 0	0 0	0 0		28	N05W56 N16W25	Q Q	SOLQUIET MAGQUIET
363	29	28	19	76	11	N14W33	1	0	0		29	N14W33	Q	SOLQUIET MAGQUIET
364	30	29	25	77	8	N14W51 S08E67	0 0	0 0	0 0		30	N14W51 S08E67	Q Q	SOLQUIET MAGQUIET
365	31	30	27	77	4	N14W67 S08E57	1 1	0 0	0 0		31	N14W67 S08E57	Q Q	SOLQUIET MAGQUIET
001	01	31	33	78	15	S08E43 N09W50	0 0	0 0	0 0		01	S08E43 N09W50	Q Q	SOLQUIET MAGQUIET STRATWARM ALERT/WEDNESDAY/SIGNIFICANT WARMING EXISTS OVER EASTERN SIBERIA IN MID STRATOSPHERE TO CENTRAL SIBERIAN ARCTIC IN UPPER STRATOSPHERE MOVING TOWARD NORTHWEST.

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

1974 PROVISIONAL

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18	13	25	26	48	38	82	37	8	61	16	0
2	15	12	16	20	70	49	97	23	8	53	17	0
3	13	8	16	19	89	55	96	12	16	46	39	9
4	12	7	17	22	103	80	98	17	41	60	44	16
5	8	0	18	21	106	62	107	18	40	85	34	17
6	0	0	19	23	113	78	111	26	50	83	22	8
7	0	8	28	28	109	70	88	32	44	81	26	7
8	29	16	16	38	106	59	63	34	32	91	14	0
9	36	22	28	58	91	64	42	45	63	102	7	0
10	44	21	30	70	69	61	29	51	80	114	24	9
11	49	21	37	75	64	58	22	50	83	110	24	21
12	60	36	38	78	56	38	27	67	88	92	21	31
13	45	50	30	83	40	48	28	69	82	76	15	35
14	74	26	42	87	35	46	46	66	67	63	7	33
15	77	46	37	98	24	34	65	59	67	48	16	33
16	64	48	23	93	16	25	74	57	70	41	20	41
17	65	47	20	75	8	24	65	52	73	28	20	36
18	52	46	32	64	0	29	59	44	68	14	18	30
19	58	45	20	51	0	32	45	43	58	7	34	40
20	49	43	9	49	0	23	50	32	34	11	37	40
21	37	37	16	43	0	20	55	28	13	12	37	46
22	36	45	31	28	7	11	61	34	0	9	39	37
23	28	35	27	17	9	11	64	34	7	7	46	28
24	16	29	21	19	7	16	62	28	11	7	33	26
25	0	17	18	20	0	15	61	25	11	8	28	9
26	8	20	10	20	20	8	67	8	13	16	27	8
27	0	42	9	38	18	8	60	8	19	30	27	8
28	8	35	17	30	32	18	61	8	23	27	10	21
29	7		19	22	20	30	42	14	38	22	7	16
30	0		25	16	0	52	41	8	60	22	7	17
31	0		26		52		38	15		16		10
MEAN	29.3	27.7	22.7	44.4	42.3	38.7	61.5	33.7	42.2	46.5	23.9	20.4

1973 yearly mean = 38.0

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1974

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	71.5	71.8	76.4	72.1	98.5	97.9	105.4*	85.1	77.8	93.1	90.2	79.7
2	73.2	73.1	76.5	71.3	113.1	100.1	112.7*	85.2	79.4	94.6	92.0	78.7
3	73.3	73.1	77.1	71.6	115.5	98.9	118.5*	83.0	79.2	93.4	96.2	76.7
4	72.5	72.9	79.0	73.3	118.0	98.2	127.8*	85.8	81.0	100.5	99.5	74.7
5	72.1	74.0	78.6	75.3	119.7	96.5	125.6*	86.5	81.5	113.3*	97.6*	73.2
6	74.7	75.4	77.5	80.0	123.0	95.0*	121.5	88.0	82.2	115.0	92.3	71.9
7	76.0	77.4	76.0	80.2	119.3	92.8	110.9*	85.8	85.4	114.5*	85.6	71.1
8	79.7	78.8	77.0	81.1	115.8	95.0*	104.7*	89.4	93.4	125.2	82.0	69.6
9	84.9	80.8	80.2	87.8	110.8	95.1	95.5	87.5	96.0	128.9	78.9	69.6
10	89.2	80.5	86.1	93.5*	105.1	97.0	88.2	88.3	102.0	129.3*	78.4	70.4
11	91.0*	77.5	85.9	99.8	104.3	95.3*	83.1	94.4	104.6	137.5*	77.3	76.2
12	94.6	76.5	86.2	105.6*	97.1	91.7	83.3	99.4	105.6	144.1	79.1	77.9
13	94.8*	77.3	84.5	102.8	93.5	89.8	83.3	95.2	106.8*	126.6	76.1	78.0
14	98.7	76.3	81.9	116.3	88.2	88.1	83.3	93.2	104.1	113.2*	77.7	78.2
15	91.8	83.7	82.9	122.9*	84.9	84.7	85.5	92.1	103.6	103.7*	80.0	83.2
16	90.0	84.7	81.8	115.0*	80.3	86.2	91.3	96.6	102.0*	94.9	82.5	88.3
17	89.2	85.9	82.7	101.8	75.8	87.2	91.0	98.8	100.3	83.8	84.6	88.3
18	87.1	87.5	80.2	98.0	75.2	84.4	86.5	95.1*	100.0	81.0	88.5	90.3
19	85.8	82.7	80.0	87.5*	73.0	82.8	87.1	88.8	91.7	75.2	96.0	91.9
20	84.4	82.2	79.6	82.3	72.5	83.8	86.7	82.6	85.9*	75.5	95.6	87.3
21	79.7	82.2	79.1	79.5	71.9	81.4	98.1	81.2*	82.7	73.9	96.2	86.0
22	83.5*	82.2	80.0	75.3	72.2	82.3	95.3*	80.6	81.0	72.6	98.7	84.4*
23	81.0	84.2	79.8	73.9	71.5	80.2	98.5	81.0	74.6	74.0	98.1	83.0
24	77.8	80.9	76.6	75.0	72.4	79.1	92.1*	77.4	72.8	74.7	95.9	80.1
25	74.1	78.6	74.3	76.5	72.4	78.8	89.5	75.7	72.8	76.9	94.5	78.9
26	71.5	76.2	72.6	74.9	79.6	79.6	93.1	73.8	75.4	80.7	92.2	75.8
27	70.7	76.4	71.8	75.3	85.1	82.4	87.9	72.7	77.0	80.0	90.8	74.3
28	70.8	75.8	70.4	77.9	87.4	83.8	84.5	71.8	80.7	81.6	86.6	73.7
29	70.7		71.5	81.6	89.4	89.4*	85.2	72.4	90.7	81.6	83.8	74.1
30	70.8		72.1	91.7	91.3	93.1*	85.9	74.2	91.5	82.7	82.0	74.5
31	71.3		72.9		95.1		87.4	75.6		86.7*		76.1
MEAN	80.4	78.9	78.4	86.7	92.6	89.8	95.5	85.1	88.7	97.1	88.3	78.6

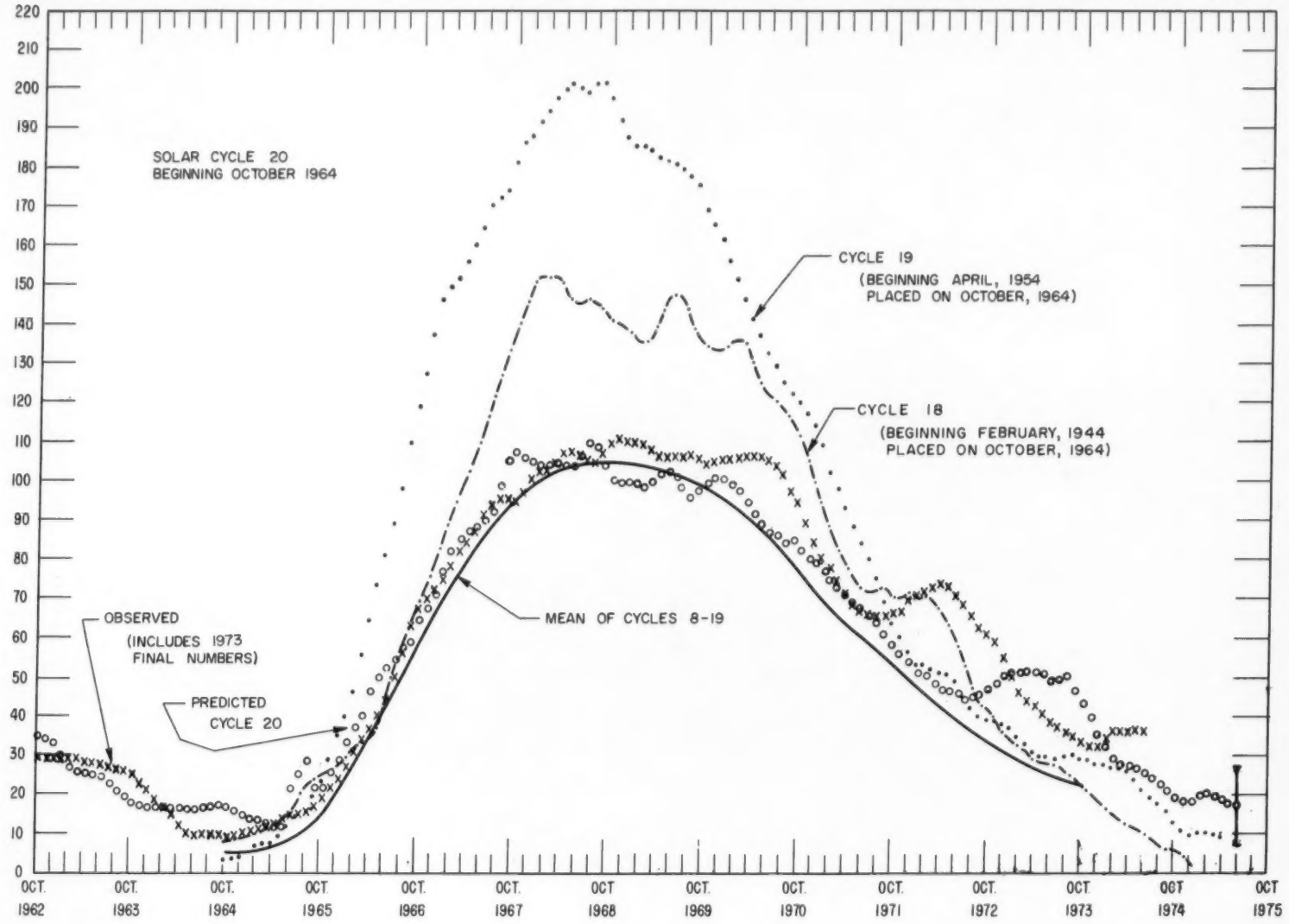
* adjusted for burst

DAILY SOLAR INDICES

DECEMBER 1974

DEC 1974	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	335	25	0	0	82.0	516	280	122	79.7	78.9	61.6	40.6	25.4	10.0
2	336	26	0	0	81.0	499	233	121	78.7	73.1	57.2	39.4	25.3	9.5
3	337	27	9	1	79.0	520	274	123	76.7	74.4	58.5	40.6	24.4	9.0
4	338	1	16	2	76.9	515	272	120	74.7	73.5	55.4	38.8	26.8	9.1
5	339	2	17	12	75.4	515	272	119	73.2	72.6	50.3	38.4	24.3	9.4
6	340	3	8	3	74.0	510	269	116	71.9	71.8	50.7	37.8	24.0	9.1
7	341	4	7	1	73.3	509	270	117	71.1	69.5	51.8	36.6	21.1	8.8
8	342	5	0	0	71.8	512	264	116	69.6	68.7	50.9	36.0	22.3	9.2
9	343	6	0	0	71.8	512	262	115	69.6	68.2	50.1	34.7	22.9	8.9
10	344	7	9	8	72.6	509	273	115	70.4	69.5	51.2	35.7	22.7	8.2
11	345	8	21	16	78.6	516	277	121	76.2	74.4	52.1	36.5	24.0	9.3
12	346	9	31	22	80.4	510	280	121	77.9	76.6	56.3	36.3	22.6	8.8
13	347	10	35	38	80.5	529	276	125	78.0	79.3	55.7	38.2	25.0	9.9
14	348	11	33	35	80.7	521	281	126	78.2	77.1	55.5	35.4	24.1	9.4
15	349	12	33	33	85.9	524	282	128	83.2	82.5	57.7	38.1	25.1	10.8
16	350	13	41	35	91.2	536	281	134	88.3	88.3	63.4	39.3	26.8	9.0
17	351	14	36	36	91.2	525	283	132	88.3	87.2	61.3	39.0	25.8	12.4
18	352	15	30	33	93.3	523	288	134	90.3	89.3	63.9	40.7	27.1	12.0
19	353	16	40	35	94.9	523	291	133	91.9	90.5	63.4	41.2	27.8	12.6
20	354	17	40	41	90.2	520	280	129	87.3	86.8	58.8	42.0	30.0	11.9
21	355	18	46	45	88.8	527	282	129	86.0	84.6	59.9	46.7	30.5	14.6
22	356	19	37	33	87.2*	531	287	135	84.4*	87.8	59.0	42.8	28.6	11.0
23	357	20	28	25	85.8	528	276	125	83.0	82.4	57.2	42.3	29.5	10.5
24	358	21	26	21	82.8	525	276	122	80.1	78.6	55.7	40.6	27.1	9.8
25	359	22	9	9	81.6	522	274	120	78.9	76.5	56.1	38.7	28.4	9.4
26	360	23	8	8	78.4	521	274	118	75.8	74.0	53.5	38.7	28.1	9.2
27	361	24	8	7	76.8	520	277	117	74.3	72.5	51.0	38.4	24.5	8.5
28	362	25	21	20	76.2	520	271	118	73.7	72.6	47.9	38.4	24.2	
29	363	26	16	19	76.6	526	270	120	74.1	73.9	49.7	38.3	24.8	8.8
30	364	27	17	22	77.0	514	269	118	74.5	73.2	49.7	36.5	23.4	9.1
31	365	28	10	15	78.7	517	272	120	76.1	74.8	49.3	35.4	24.8	8.5
MEAN			20.4	18.5	81.1	520	276	123	78.6	77.5	55.3	38.8	25.5	9.9

* Corrected for burst.



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.2	65.5	62.2	60.6	58.7	55.1
1973	50.9	46.5	44.2	42.7	40.7	39.1	37.6	36.3	34.7	33.2	32.7	32.6
1974	34.2	36.1	35.7	35.7	36.4	36.2	34.7 (2)	32.6 (3)	30.4 (4)	28.6 (5)	26.9 (6)	25.6 (7)
1975	24.3 (7)	22.7 (7)	21.5 (7)	20.1 (8)	18.5 (8)	17.4 (10)	16.4 (11)					

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1973.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

DECEMBER 1974

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE DEC	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HEMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
RAMY	14	1813	1837	1820U	N13	E47	.726		18.3	24	SB	4	C		1.49				F H
RAMY	14	1813	1837	1820U	N13	E48	.738		18.4	24	SB	4	V		1.32				F
PALE	14	1813	1838	1822	N12	E51	.771	13380	18.6	25	1B	2	V		2.06				F
PALE	14	1813	1838	1822	N12	E50	.760	13380	18.5	25	1B	2	C		2.06				F
PALE	14	1813	1838	1815	N12	E51	.771		18.6	25	SF	2	V		.93				F
BOUL	14	1817	1844	1822	N11	E48	.737	13380	18.4	27	1N		C	1822	2.68	4.02			
MANI	17	0146E	0149D	0147	N12	W53	.792		13.1	3D	SF	2		0147	.62	1.01			F
MITK	17	0146	0215	0150	N10	W54	.803	13380	13.0	29	1N		C	0150	1.24	2.20			E
PALE	17	0146	0205	C151	N11	W50	.760		13.3	19	SF	3	C		.55				DE
PALE	17	0146	0155	0151	N11	W50	.760		13.3	9	SF	3	V		.52				DE
BOUL	22	1601	1810	1632	N 5	E14	.243	13383	23.7	129	1N		C	1632	4.07	4.20			
RAMY	22	1634E	1708D	1638U	N 5	E14	.243	13383	23.7	34D	1N	4	C		2.78				F H
RAMY	22	1636E	1638D	1638D	N 7	E14	.240	13383	23.7	2D	1N	4	V		2.58				F H
WEND	23	1000E	1056D	1016	N08	E07	.122	13383	23.9	56D	1N		P		5.16				B
MONT	23	1007	1025D	1022	N08	E06	.105		23.9	18D	SN		C	1022	1.86				
WEND	23	1008E	1021D		N14	E03	.132		23.6	13D	SN								
ATHN	23	1020E	1047	1020U	N12	E 3	.101		23.7	27D	SB	3	V		1.98				UDE
ATHN	23	1020E	1047	1020U	N12	E 3	.101		23.7	27D	SB	3	C		1.98				UDE
BOUL	25	1901	2032	1928	N 3	W27	.457	13383	23.8	91	1N		C	1928	4.28	4.80			
PALE	25	1909	2032	1921	N 5	W25	.422	13383	23.9	83	1B	2	C		2.58				U H
PALE	25	1909	2032	1921	N 5	W25	.422	13383	23.9	83	1B	3	V		2.58				U H
RAMY	25	1913	2008	1930	N 4	W27	.455	13383	23.8	55	1B	4	C		3.34				U F
RAMY	25	1913	2025	1922	N 6	W26	.436	13383	23.9	72	1B	4	C		3.09				F H
PALE	27	0016	0059D	0019	N 7	W43	.678	13383	23.8	43D	1B	3	C		1.71				U H
PALE	27	0016	0059D	0019	N 7	W43	.678	13383	23.8	43D	1B	3	V		1.65				U H
MANI	27	0019	0058	0023	N05	W42	.667	13383	23.9	39	1N	2		0023	3.20	4.43			FS

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

DECEMBER 1974

01 0147 N35 W64
12 0106 N11 E17
12 0939 N11 E18
14 1019 N12 E55
15 0223 N11 W26
16 2333E N12 W49
17 2343 N16 E 5
19 0032 N15 W04
20 2039E N 7 E39
26 0124E N 9 W27
26 1305 N 4 W35
28 2019 N 4 W67
31 1737 N 7 W48

04 1346 S12 E05
12 0109E N11 E18
12 2155 N12 E 6
14 2056E N12 W24
15 0223 N11 W26
17 0419 N11 W55
17 2344 N18 E 6
19 0303 S15 W45
20 2039 N 6 E38
26 0128 N07 W29
27 2316E N07 W56
28 2027E N 9 W67
31 1851E N 7 W49

11 1151E N 9 E24
12 0112E N10 E18
12 2156 N13 E 5
14 2057E N12 W24
16 0954 N09 W43
17 0436E N09 W55
18 0348 N15 E02
19 0303 S15 W45
22 0257 N07 E25
26 0128 N07 W29
28 0521E N14 W28
28 2027E N 9 W67

11 2327 N11 E18
12 0615 N12 E14
12 2156 N13 E 5
14 2146E N13 E46
16 0955 N12 W44
17 0437 N11 W56
18 1216 N15 W 4
19 1318 N 5 E56
23 0009E N08 W29
26 1112E N 8 W35
28 0638 N12 W32
30 0657E S11 E64

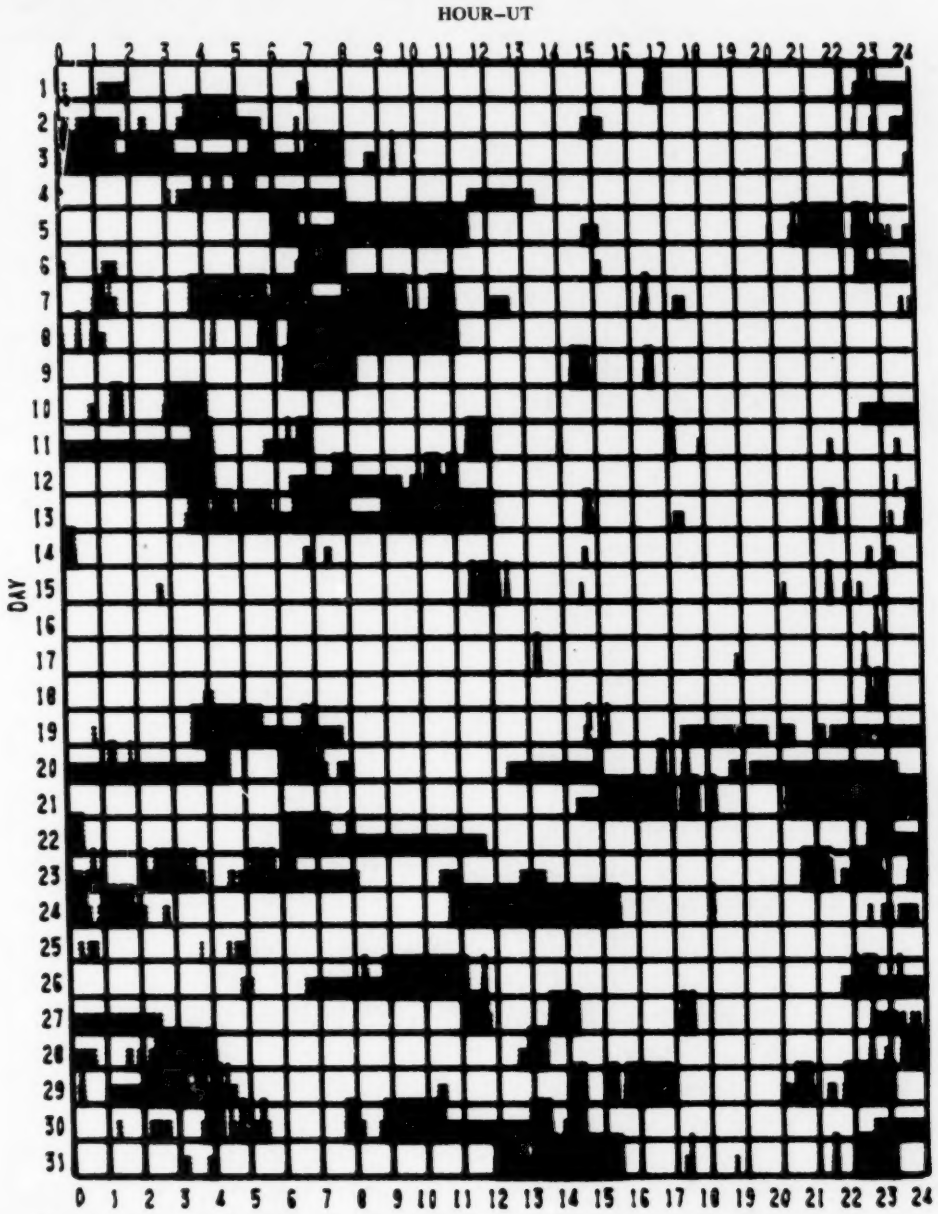
11 2329E N11 E18
12 0935 N10 E10
13 0158 N11 E70
15 0001 N12 W23
16 2324 N11 W49
17 0437E N11 W55
18 1223E N14 W 1
19 1332 N03 E54
23 0929 N10 E05
26 1114 N 7 W38
28 0743 N12 W33
30 0810 N13 W57

11 2338E N11 E18
12 0937 N 9 E15
13 0158 N11 E70
15 0004 N11 W25
16 2327E N11 W49
17 0437E N11 W55
18 1223 N14 W 1
19 1350E N 4 E56
26 0123 N 9 W27
26 1114 N 7 W38
28 2011 N 7 W73
31 1705E S 7 E48

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

DECEMBER 1974



Observatories included in total patrol:

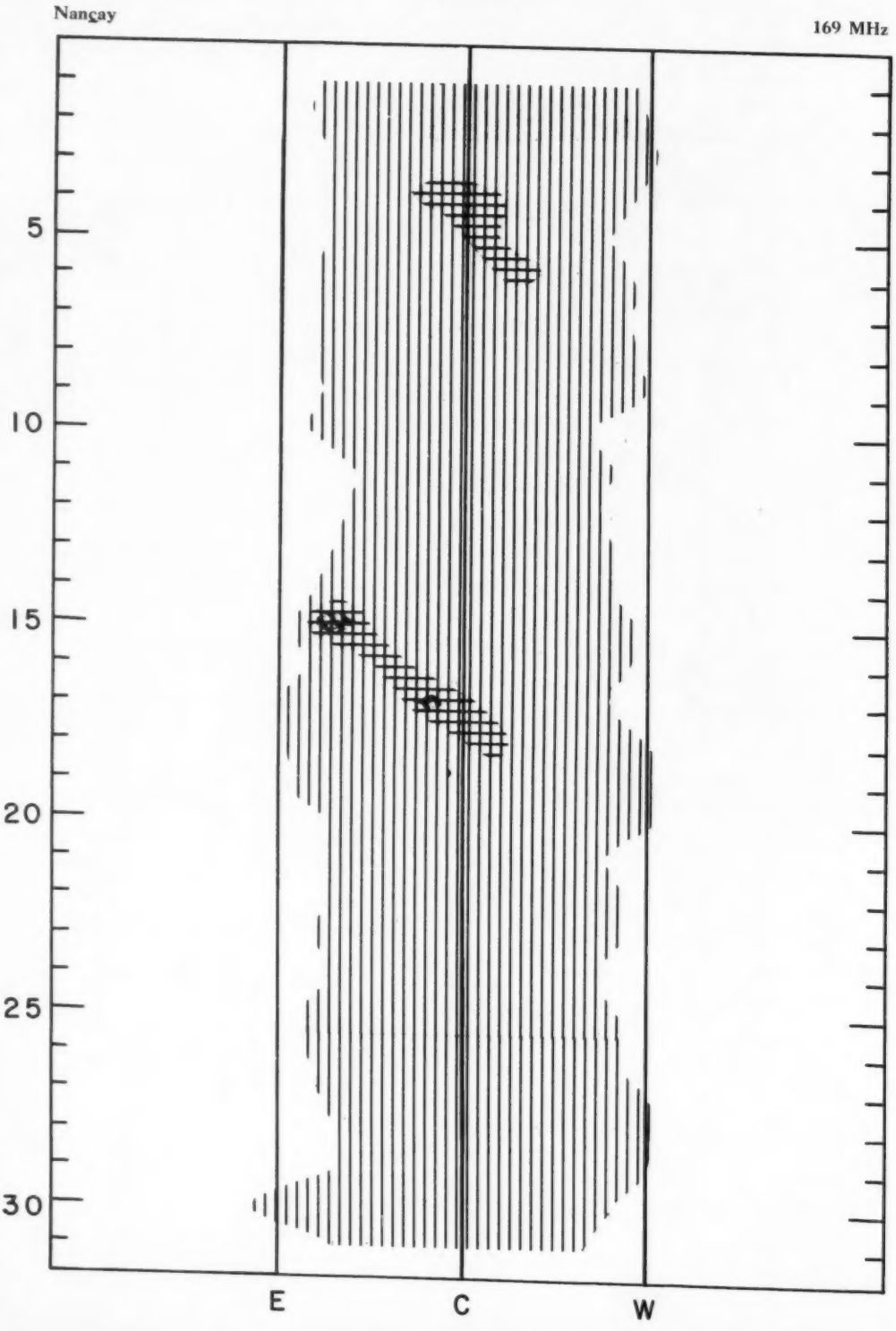
Arcetri	Bucharest	Manila	Monte Mario	Teheran
Athenes	Herstmonceux	McMath-Hulbert	Palehua	Upice
Boulder	Hurbanovo	Mitaka	Ramey	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

12
Dec 74

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

DECEMBER 1974

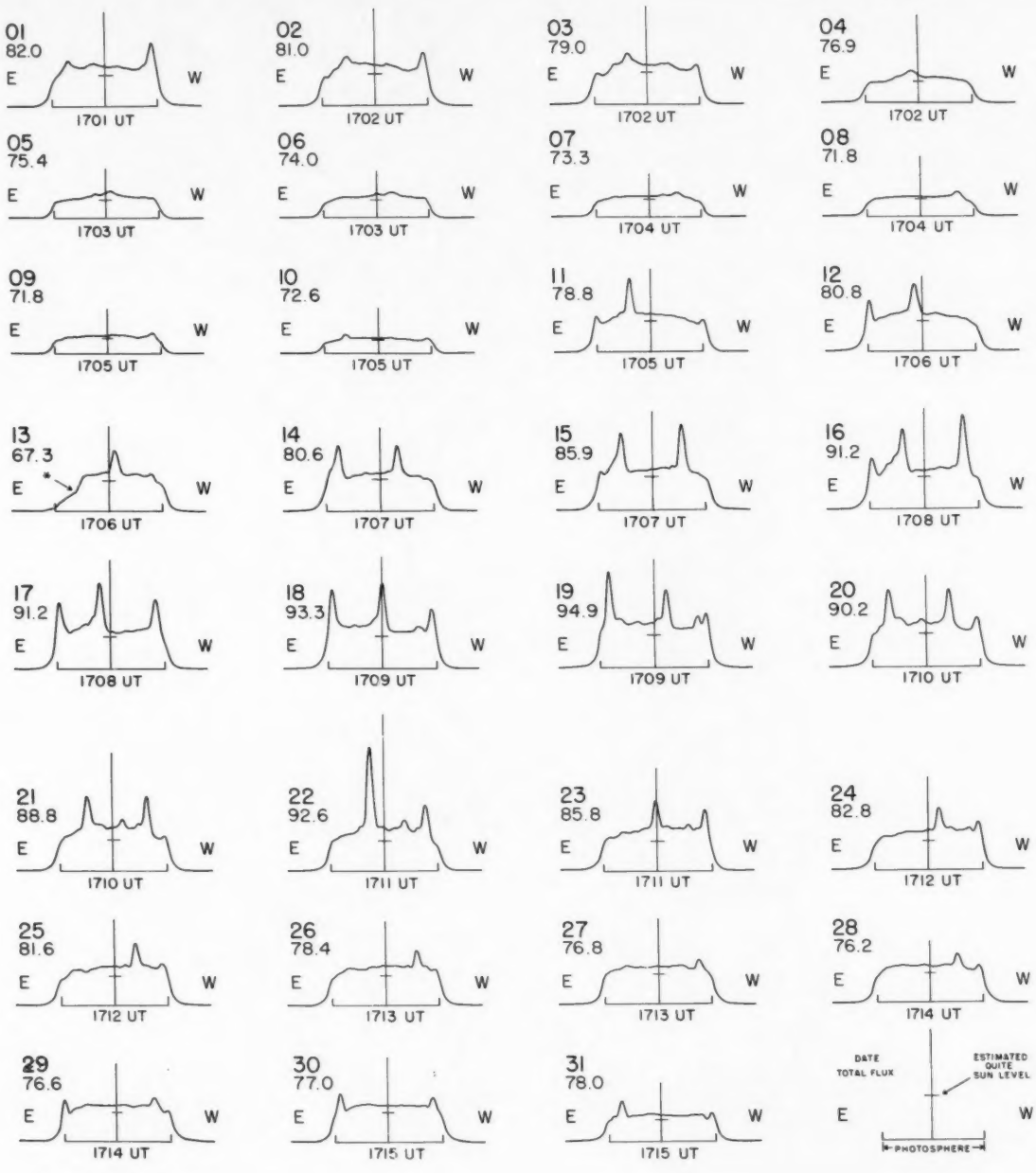


EAST – WEST SOLAR SCANS

December 1974

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan Beam with 1.5 minutes of arc
E – W Resolution



* PARTIAL ECLIPSE IN PROGRESS

14
Dec 74

EAST-WEST SOLAR SCANS

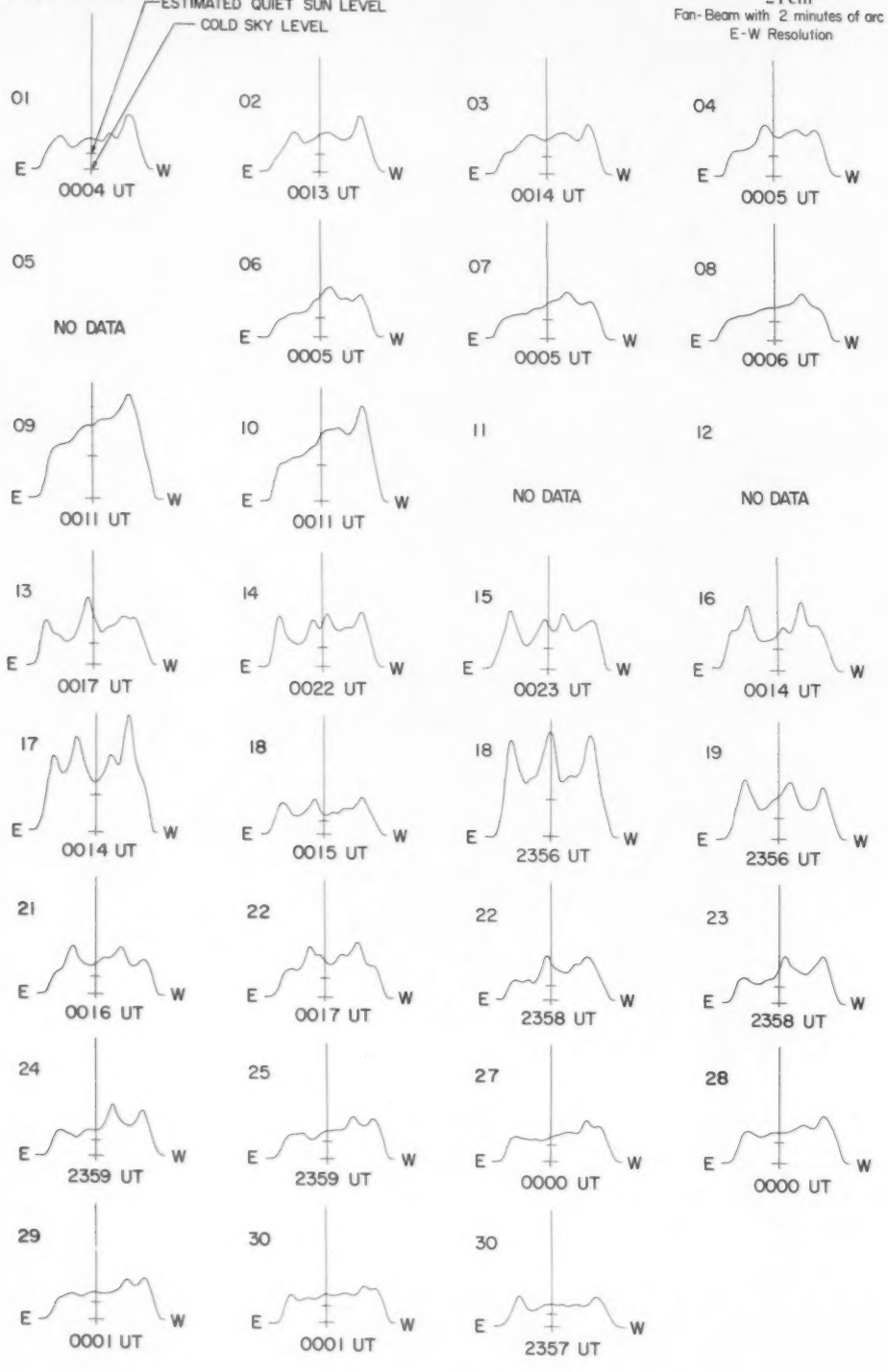
DECEMBER 1974

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



EAST-WEST SOLAR SCANS

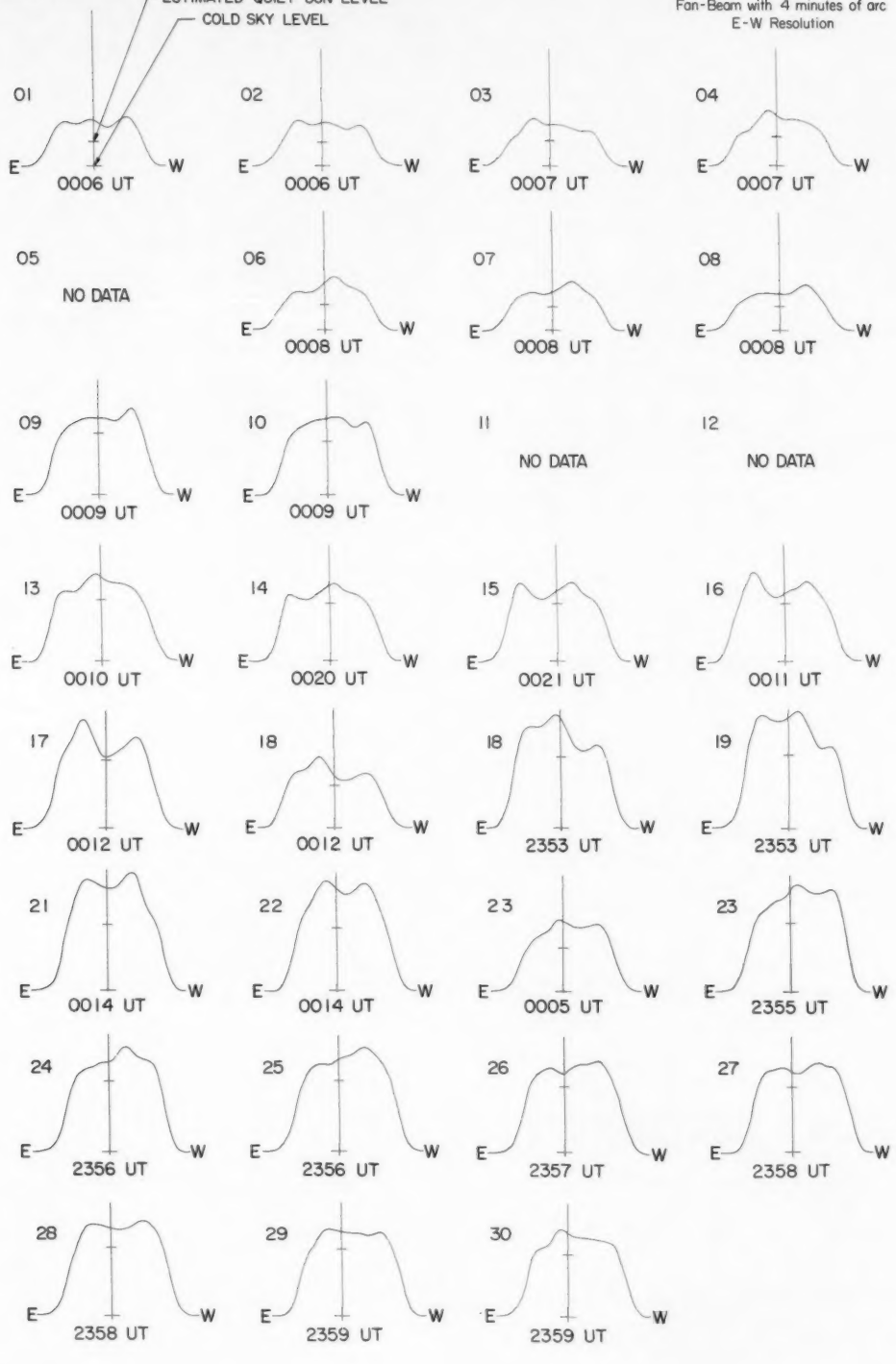
DECEMBER 1974

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1974

DEC 1974	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
5	2695 BOUL	3	1832	1833	3.5	5.0	2.0		
	2695 BOUL	8	2241.5	2241.5	1	5.0	2.0		
	2695 BOUL	8	2244	2244.5	1.5	17.0	8.0		
11	2695 PENT	20	1420	1437	70	1.6	0.8		
	2695 PENT	27	1617		203	1.2	1.1		
	2695 PENT	24	1617	1635	18	1.2	0.6		
	2695 PENT	24	1635		155	1.2			
	2800 OTTA	1	1848	1848.5	1	1.0	0.5		
	2800 OTTA	26	1910	1940	30	-1.2	-0.6		
12	2695 PENT	27	1509		280	1.6	1.5		
	2695 PENT	24	1509	1512	3	1.6	0.8		
	2695 PENT	24	1512	1930	258	1.6			
	2695 PENT	8	1608.1	1608.1	.5	4.6			
	2800 OTTA	26	1930	1949	19	-1.6	-0.8		
13	2695 PENT	8	1326.7	1326.8	.3	8.2	4.1		
14	2800 OTTA	2	1817.2	1821	6.8	6.0	2.4		
	2695 SGMR	20	1817.4	1821.3	13.9	5.9	3.5		
	2695 BOUL	45	1817.5	1821	10.5	8.0	3.0		
	8800 SGMR	20	1818.9	1820.1	11.6	9.8	5.9		
16	2695 PENT	8	1657.3	1657.6	.7	1.6	0.8		
17	2695 PENT	20	1440	1510	60	1.2	0.6		
	2800 OTTA	20	1825	1845	75	1.6	0.8		
18	8800 SGMR	46	1504.7	1505.8	2.5	105.9	36.6		
	8800 SGMR	46		1506.5		122.0			
	2695 SGMR	4	2034.8	2037.4	3.2	37.8	15.1		
19	2695 SGMR	20	1318.8	1346.8	50.1	6.8	4.1		
	8800 SGMR	20	1339.9	1350.7	23.9	7.3	4.4		
	2695 PENT	26	1445	1550	65	-4.6	-2.3		
	2695 PENT	27	1600		230	1.2	0.9		
	2695 PENT	24	1600	1635	35	1.2	0.6		
	2695 PENT	24	1635		115	1.2			
	2695 PENT	26	1830	1950	80	-1.2	-0.6		
20	2800 OTTA	20	2035	2045	35	1.6	0.8		
22	2695 PENT	23	1500		330	7.0			
	2695 PENT	8	1614.8	1614.8		6.8			
	2695 BOUL	45	1615	1620.5	5.5	22.0	4.0		
	2695 PENT	8	1619.4	1620	.8	20.0			
	2695 BOUL	3	1836	1836.5	2	3.0	1.0		
	8800 SGMR	22	1605.2	1609.8	22.9	7.4	2.2		
	2695 SGMR	22	1601.7	1619.9	26.4	18.0	5.4		
25	2800 OTTA	23	1910	1930	145	4.6	2.3		
	2800 OTTA	46	1914	1919	13	42.0	13.0		
	2695 SGMR	46	1914.4	1916.2	28.8	48.7	14.6		
	2695 SGMR	46		1918.8		37.1			
	2695 BOUL	45	1914.5	1916.5	25.5	57.0	14.0		
	8800 SGMR	4	1915.9	1916.6	16.3	12.0	3.6		
	2800 OTTA	1	1932	1933	3	1.2	0.6		
27	2695 MANI	4	0018.3	0019.1	8.7	13.9	1.7		

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

PIONEER VI

DECEMBER 1974

Date Dec. 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND				COSMIC RAY PROTONS[3] (particles/sec)		
				AMES[1]		MIT[2]				
				U_{H^+}*** (km/sec)	TAU (days)	U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	6-13 (Mev*)	13-175 (Mev**)	>175 (Mev)
22	2146-0057	2200	151.	506.	11.9	469.	7.2	0.6	0.11	0.65
		2300		448.		499.	6.4	.7	.11	.96
		2400		477.		484.	6.4	.8	.11	.7

[1] Wolfe - NASA/ARC
[2] Lazarus - MIT
[3] Simpson - University of Chicago

* Includes He 0.6-13 Mev/nucleons and electrons ∿0.5 Mev - see J. Retzler and J. A. Simpson, J. Geophys. Res., 74, 9, 2149-2160, 1969 for discussion of the electron response of Pioneer VII.

** Includes He >13 Mev/nucleons.
Q used to indicate that a rate is at its quiescent level.

Note: The notes published with the March 1972 data continue to apply to the current data.

ESP = Earth-Sun Probe Angle.

Note: Pn-6/8 Radial Alignment Dates - Physical 23 Dec. 1974
Solar Wind Pn-6 1200 UT 25 Dec. 1974
Pn-8 1200 UT 26 Dec. 1974

Pn-8 was not acquired by DSS-43 passage on 24 Dec. 1974 due to incorrect JPL predicts.

Data sampled hourly unless otherwise noted.
*** Peak velocity.

SOLAR X-RAYS BY SATELLITE
SMS-1 GOES

DECEMBER 1974

.5 - 4Å Hourly Averages (10^{-6} watts/m^2 /sec)

DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	B
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
10	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B
11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
17	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
19	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
23	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
24	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0.02	B	B	B	B	B
25	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
26	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	B
28	M	M	M	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	B	B	B
29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B
30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

SOLAR X-RAYS BY SATELLITE
SMS-1 GOES

DECEMBER 1974

1 - 8Å Hourly Averages (10^{-5} watts/m^2 /sec)

DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B
2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B
3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	B
7	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	B
8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B
9	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B
10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
12	B	.01	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
16	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
17	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	.01	B	B	B	B	B	B	B	B	B	B
19	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	.02	.01	B	B	B	B	B	B	B
22	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B
23	B	B	B	B	B	B	B	.09	B	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
24	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	.04	.01	B	B	B	B
25	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
26	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
27	.01	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	B
28	M	M	M	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	B	B	B
29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B
30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

SOLAR X-RAYS BY SATELLITE
SMS-1 GOES
DECEMBER 1974

DAY	BEGIN TIME	.5-4A	1-8A	MAX TIME	.5-4A	1-8A	1/2P TIME	.5-4A	1-8A
12	0051	0.0E+00	8.9E-09	0111	6.3E-07	5.4E-06	0120	1.1E-07	2.7E-06
22	1607	0.0E+00	3.2E-08	1635	8.8E-08	3.1E-06	1713	5.4E-09	1.6E-06
25	1914	0.0E+00	9.1E-08	1920	4.6E-07	7.1E-06	1951	1.4E-07	3.6E-06
27	0018	0.0E+00	6.3E-08	0025	1.3E-07	3.3E-06	0045	2.1E-08	1.7E-06

INFERRED IP MAGNETIC FIELD

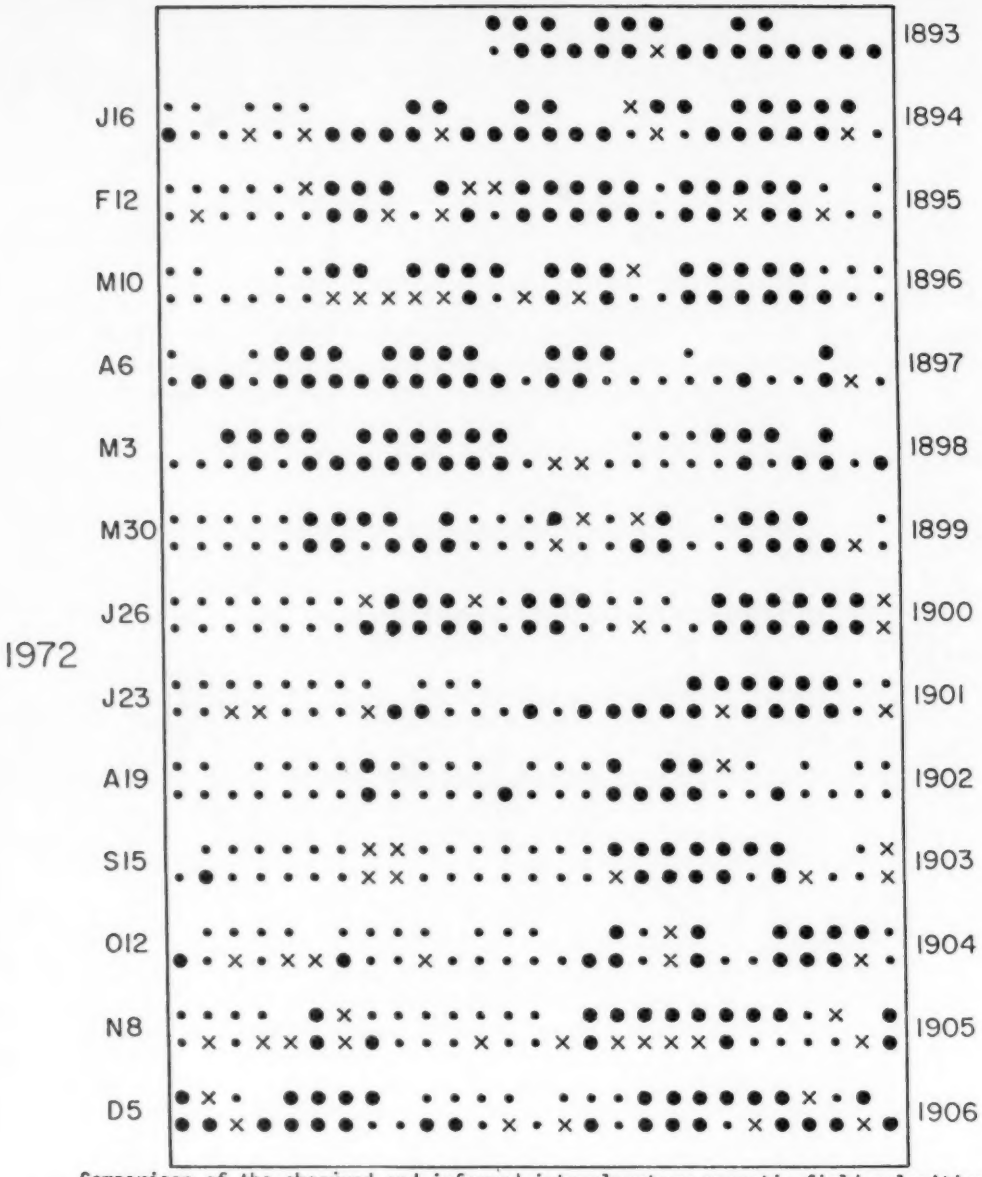
BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1896	1972 MAR 10	A	A	A	A	A	A	A	A	A	A	A	T	A	T	A	T	A	T	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	A	T	T	A	A	A
1897	APR 6	A	A	T	T	T	T	A	A	A	T	T	T	T	T	T	T	T	A	T	T	T	T	T	T	T	T	T	T	T	A	T	T	T	T	T	T	A	T	T
1898	MAY 3	A	A	A	A	A	A	T	-	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1899	MAY 30	A	A	A	A	A	*	A	A	A	T	A	*	T	T	T	T	A	A	T	T	T	T	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1900	JUN 26	A	A	A	A	A	A	T	A	A	T	A	A	A	A	A	A	T	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1901	JUL 23	T	A	A	*	T	A	A	*	T	A	A	A	A	A	A	A	A	T	T	A	*	T	A	A	A	A	A	A	A	T	A	*	T	A	A	T	T	T	T
1902	AUG 19	A	-	A	-	A	A	A	A	A	A	A	A	A	A	T	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
1903	SEP 15	A	A	T	A	T	*	A	A	A	A	A	A	T	A	A	T	T	A	T	A	A	A	A	A	-	A	-	A	-	A	-	A	T	T	T	T	T	T	T
1904	OCT 12	T	T	A	-	T	A	-	A	A	*	A	T	A	T	T	A	T	A	T	A	A	A	A	A	T	A	A	T	A	T	A	A	A	A	T	T	T	T	T
1905	NOV 8	A	A	T	A	A	T	A	A	T	A	T	A	T	T	A	T	T	*	A	A	A	A	A	A	*	T	A	T	A	A	A	A	A	A	A	A	A	A	A
1906	DEC 5	T	T	T	T	T	A	A	T	T	-	T	-	T	T	T	T	T	A	A	T	A	-	T	A	T	T	A	T	T	T	T	T	T	T	T	T	T	T	T
1907	1973 JAN 1	T	T	T	T	T	T	T	T	T	A	T	T	T	T	A	T	A	T	-	A	T	A	T	A	-	A	T	A	-	A	T	A	T	T	T	T	T	T	T
1908	JAN 28	T	T	A	A	T	T	T	A	T	*	A	T	T	T	T	T	T	A	T	T	A	A	A	A	A	A	T	A	A	A	A	A	A	A	A	A	T	T	T
1909	FEB 24	A	T	T	A	T	T	A	T	A	T	A	T	T	T	T	-	A	T	T	A	A	T	A	T	A	T	T	T	T	A	A	A	A	A	A	A	A	A	A
1910	MAR 23	T	T	T	T	T	T	T	T	A	T	T	T	T	T	T	T	T	T	A	T	A	T	A	A	A	A	A	A	A	-	A	A	A	A	T	A	A	A	A
1911	APR 19	T	T	T	T	A	T	T	-	A	T	T	T	T	A	T	T	T	A	T	T	T	T	A	A	A	A	A	A	A	T	A	*	A	A	-	A	T	A	A
1912	MAY 16	T	T	T	T	T	T	T	T	T	A	T	T	-	T	-	T	A	T	T	A	A	T	A	T	A	T	A	A	A	-	A	A	A	-	A	A	A	*	A
1913	JUN 12	T	A	T	*	-	T	*	-	T	T	T	A	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1914	JUL 9	T	T	T	T	T	A	A	T	T	-	T	A	T	A	T	*	A	T	*	-	A	A	T	T	T	A	T	A	T	*	-	A	A	-	A	A	T	T	T
1915	AUG 5	T	T	A	A	A	A	T	T	A	T	A	A	A	T	T	T	*	T	T	A	T	*	T	A	T	T	T	A	A	A	A	A	T	T	T	T	T	T	T
1916	SEP 1	T	T	A	*	T	T	T	T	A	A	T	A	A	A	A	T	A	*	T	T	T	T	T	T	T	T	T	A	A	A	A	A	A	T	T	T	T	T	T
1917	SEP 28	A	A	*	T	A	A	T	A	T	T	T	A	A	A	A	A	A	T	A	T	A	A	*	A	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T
1918	OCT 25	T	T	T	T	A	T	A	A	A	A	T	A	T	*	T	A	T	A	A	A	A	A	A	A	T	A	T	A	T	T	T	T	T	T	T	T	T	T	T
1919	NOV 21	A	*	T	T	T	-	A	A	A	A	T	T	A	T	A	T	*	A	T	A	A	A	A	A	A	A	A	T	T	A	T	T	T	T	T	T	T	T	T
1920	DEC 18	T	T	A	T	A	A	T	A	T	A	A	T	A	*	A	A	A	*	A	T	T	T	T	T	T	T	T	T	*	T	T	T	T	T	A	T	T	T	T
1921	1974 JAN 14	T	A	A	T	-	T	T	A	A	T	A	A	A	A	A	A	-	A	A	-	A	T	-	T	T	T	A	T	*	T	A	T	T	T	T	T	T	T	T
1922	FEB 10	A	-	A	-	A	*	A	A	A	A	A	A	A	A	T	A	T	A	A	A	A	T	*	T	T	T	T	T	T	T	A	T	-	T	T	T	T	T	T
1923	MAR 9	A	A	A	A	A	A	A	A	A	A	A	A	A	T	T	T	A	T	A	A	T	A	T	A	T	A	T	A	T	A	T	A	T	T	T	T	T	T	T
1924	APR 5	A	A	A	A	A	A	-	T	A	A	A	A	A	A	A	A	*	A	A	A	A	A	A	A	A	T	T	T	A	T	A	T	A	T	T	T	T	T	T
1925	MAY 2	-	-	A	A	A	A	*	A	T	T	A	A	T	A	T	*	T	A	A	A	A	T	A	T	*	A	A	*	A	T	A	T	T	T	T	T	T	T	T
1926	MAY 29	T	T	A	A	A	A	*	-	A	A	A	A	*	A	A	*	-	T	A	*	A	A	A	A	A	T	T	T	T	A	T	A	T	T	T	T	T	T	T
1927	JUN 25	T	A	T	A	A	A	-	A	-	A	A	T	A	A	A	A	A	A	A	A	A	A	A	A	-	T	A	T	A	-	T	T	T	T	T	T	T	T	T
1928	JUL 22	T	T	A	A	A	A	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	-	T	-	T	-	T	-	T	-	T	-	T	-	T
1929	AUG 18	A	T	-	A	-	A	-	A	-	A	-	A	-	A	-	A	T	-	T	A	T	T	T	T	T	T	T	T	T	T	T	A	T	T	T	T	T	T	T
1930	SEP 14	A	T	T	T	A	T	A	*	A	A	A	A	A	A	A	A	T	A	A	A	A	T	T	T	A	A	T	T	A	T	T	T	T	T	T	T	-	T	T
1931	OCT 11	T	T	T	A	T	A	A	A	A	A	A	A	A	A	A	A	T	A	A	A	A	T	A	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1932	NOV 7	T	A	-	T	-	A	-	A	-	A	A	A	A	A	A	A	A	A	-	A	-	A	T	-	A	T	T	T	T	T	T	T	A	T	*	T	A	T	T
1933	DEC 4	T	T	T	A	T	T	A	T	A	A	A	T	A	T	A	*	A	T	T	*	A	T	A	*	A	T	A	A	A	A	A	T	T	T	T	T	T	T	T
1934	DEC 31	-	A																									

T = towards the sun
A = away from the sun
* = effect doubtful or not discernable
- = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Anarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Cambridge Research Laboratories at the Thule Geopole Station is used for the second half of the day.

Note: Computer problems are responsible for the considerable amount of missing data in August 1974.

INFERRED IP MAGNETIC FIELD



Comparison of the observed and inferred interplanetary magnetic field polarities during 1972. Bartels rotation numbers are given on the right and the starting day of each rotation is indicated on the left. The top line of each pair represents the field observed by spacecraft orbiting the earth, and the bottom line of each pair represents the inferred field polarity inferred at the NOAA Space Environment Laboratory, Boulder, Colorado and published in *Solar-Geophysical Data*. A small dot represents a day with field polarity directed away from the sun, a large dot represents a day with field polarity directed toward the sun, an x represents an uncertain or ambiguous day, and a blank represents a gap in the spacecraft observations.

This figure was prepared by John Wilcox, Leif Svalgaard and Peter Hedgecock as a part of the presentation "Comparison of Inferred and Observed Interplanetary Magnetic Field 1970-1972" submitted for publication in *Journal of Geophysical Research*.

NOVEMBER 1974 DATA

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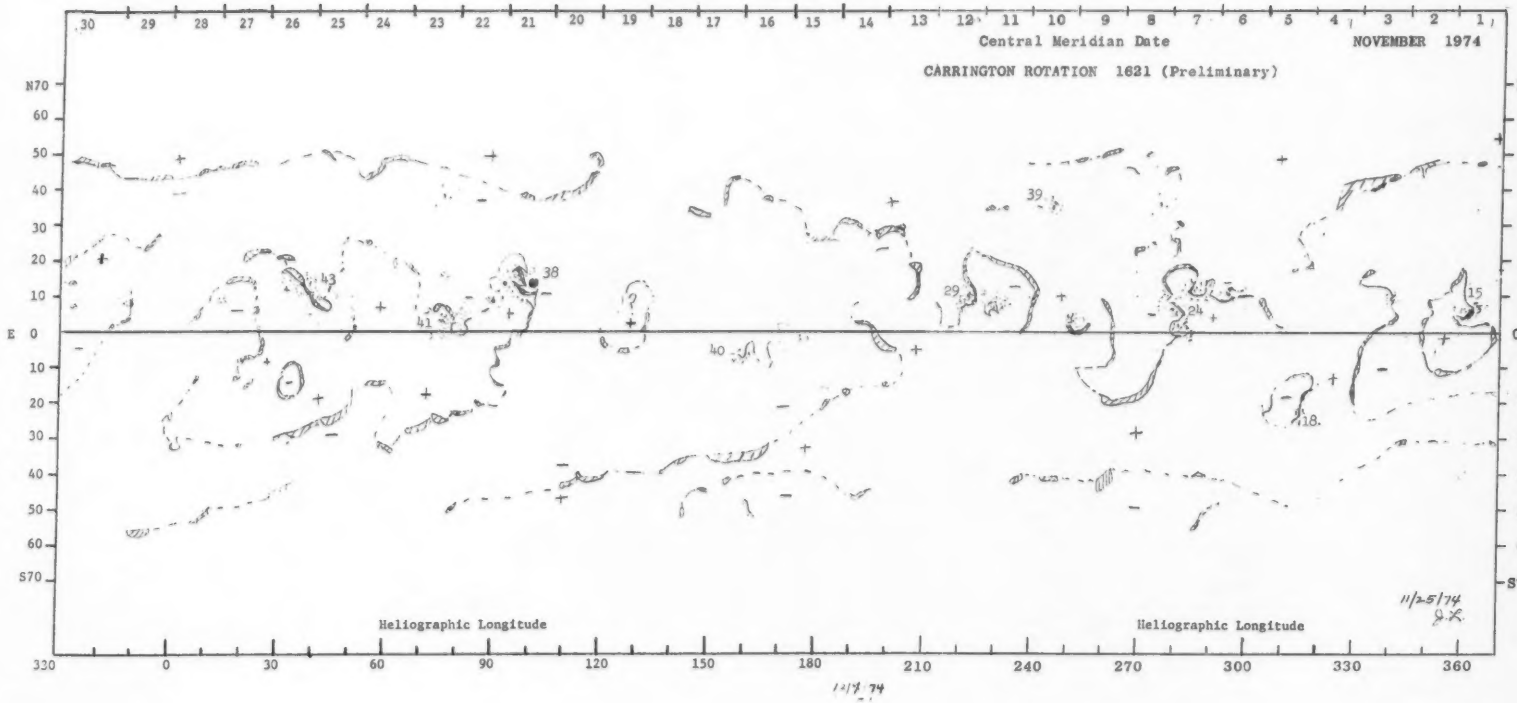
For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

Hα SYNOPTIC CHART

NOVEMBER 1974



2.0 cm and 8.6 mm Spectroheliograms -- The 2.0 cm wavelength (15.3 GHz) and 8.6 mm wavelength (35.0 GHz) solar radio maps are made at the La Posta Astrogeophysical Observatory of the Naval Electronics Laboratory Center, San Diego, Calif. (NELC La Posta). The program is funded in part by the AFCRL. The geographic coordinates of the observatory are: Long. 116° 26' 6".43 W, Lat. 32° 40' 39".33 N, Elevation 3896 ft. MSL.

The antenna used for the observations is a 60 ft. diameter circular paraboloid with a Cassegrain feed system, on a computer controlled altitude-azimuth mount. The half power beam width of the antenna is approximately 4'.0 at 2.0 cm and 2'.8 at 8.6 mm. The observations are made with Dicke switched radiometers, the antenna being switched against a noise tube. The central disk quiet area solar antenna temperature is ~ 7000 K at 2.0 cm and ~ 3800 K at 8.6 mm. The measured rms noise of both radiometer systems when looking at the sun is ~ 2 K for a 1.0 second time constant.

The data for the maps are collected by automatically directing the telescope to perform a square boustrophedonic raster with lines perpendicular to heliographic north-south, filling a 19 by 19 grid of points spaced 2'.0 apart at 2.0 cm wavelength, and a 35 by 35 grid of points spaced 1'.0 apart at 8.6 mm wavelength. The corners of the resulting grid are indicated on the maps. Note that at 2.0 cm the grid is 36' square while at 8.6 mm the grid is 34' square. The scale of the map is shown at the lower left corner of the grid by short axes with 1'.0 tic marks. The universal time at which the map was begun is shown below the map. Approximately 25 minutes are required to fill the 2.0 cm wavelength grid, while approximately 65 minutes are required at 8.6 mm wavelength. The quantity being contoured is antenna temperature; all contours are labelled in units of 100 K. The contour interval is not necessarily constant on a map, and may be changed from map to map in order to provide a clearer picture of the radio emission.

On days for which no map is presented the words NO DATA appear near the center of the grid. Below this appears a one word indicator of why no map has been provided. These words have the following specific meanings.

CLOUDY ------- A map was made for the day beginning at the time shown; however, the data were so seriously effected by clouds that it was deemed unwise to publish it. Such maps will be provided to individual researchers upon request.

WEATHER ------ The weather at the observatory was so inclement that no observations were made. No time is given in the format.

CALIBRATION -- A map was made for the day beginning at the time shown; however, the operation of the equipment was such that the reliability of the antenna temperatures is in doubt. Such maps will be provided to individual researchers upon request.

EQUIPMENT ---- The situation and condition of the equipment were such that no map was made. This includes such causes as receiver malfunction, mechanical and computer problems, and preventative maintenance. No start time is given in the format.

Further information and requests for data should be addressed to Max P. Bleiweiss, NELC La Posta, Rt. 1 Box 591, Campo California 92006, Attention Fred L. Wefer.

NOVEMBER 1, 1974 (P = 24.60, B_o = 4.38, L_o = 10.08)

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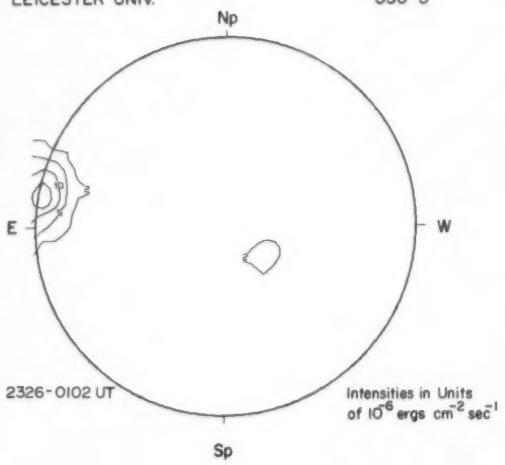
LEICESTER UNIV.

X-RAY
OSO-5

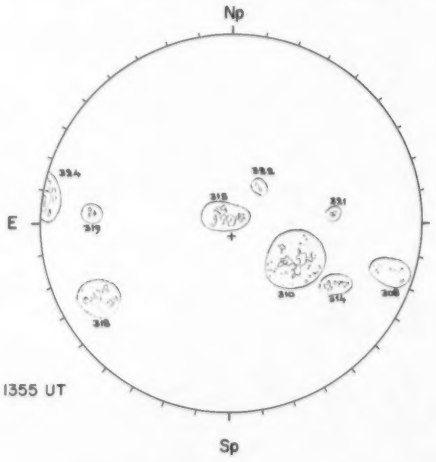


2326-0102 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCULUM REPORT

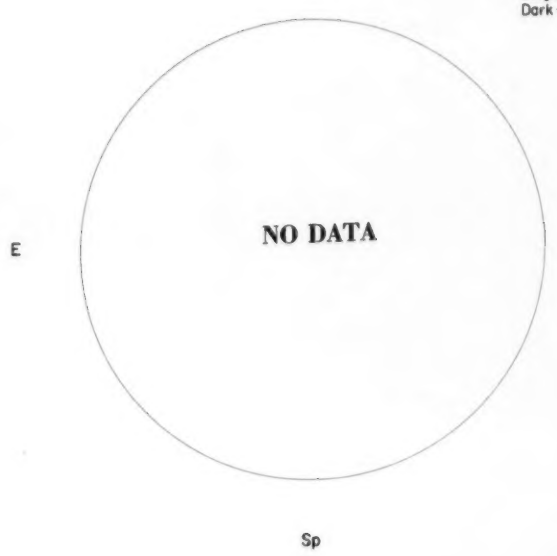


1355 UT

GOOD	M
10 - 1400	- 2.5
15 - 0900	- 2.5
18 - 1300	- 3.0
22 - 0100	- 2.5
24 - 4000	- 2.5

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



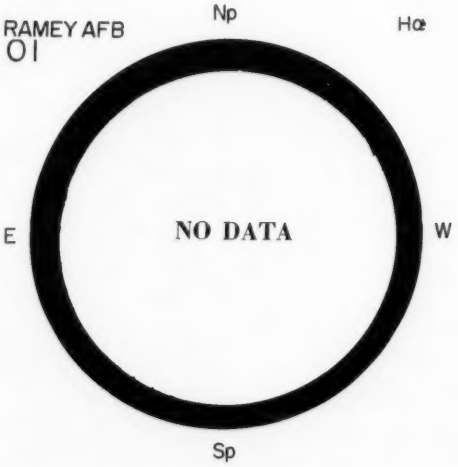
MT. WILSON

DELTAY=
DELTAX=

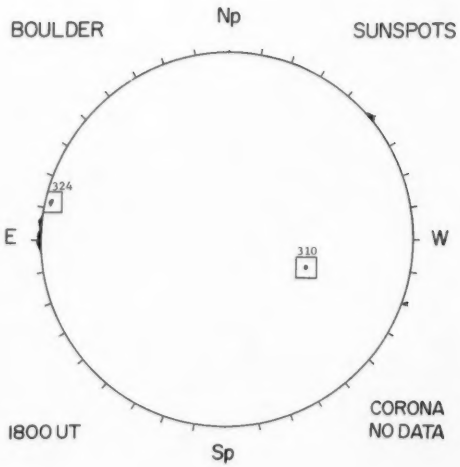
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

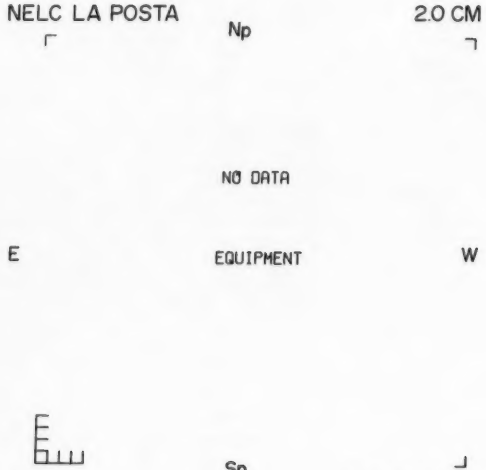
RAMEY AFB
01



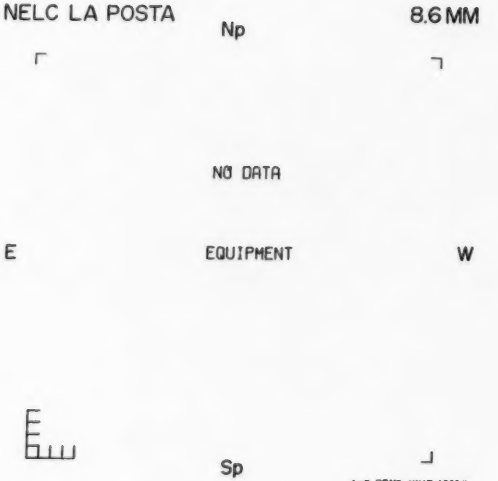
BOULDER



NELC LA POSTA



NELC LA POSTA



27
Nov 74

NOVEMBER 2, 1974 (P = 24.44, B_o = 4.28, L_o = 356.89)

28 Nov 74

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

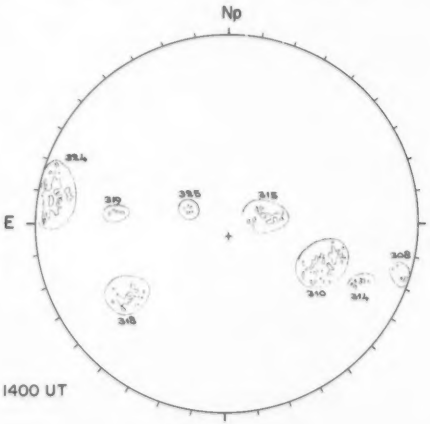
E NO DATA W

Sp

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



GOOD	M
10 - 1400	- 2.5
15 - 0800	- 2.5
18 - 1200	- 2.5
24 - 4200	- 3.0

1400 UT

KITT PEAK

Np

E NO DATA W

Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

Np

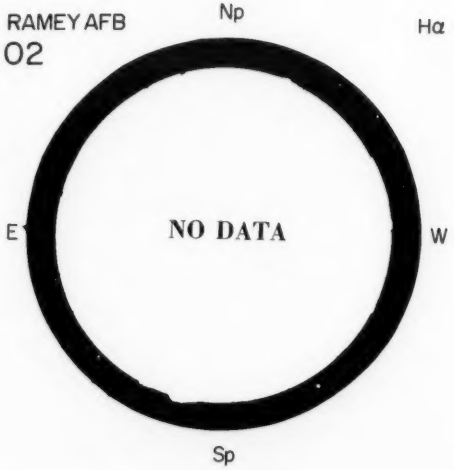
E NO DATA W

Sp

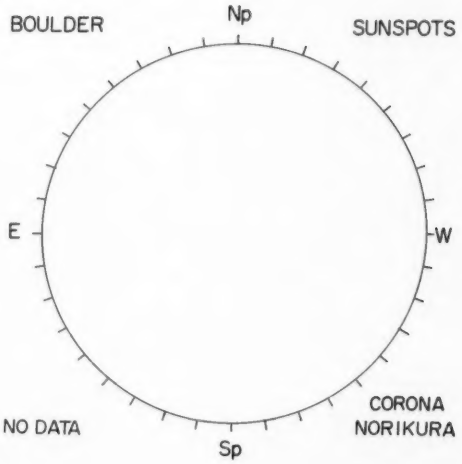
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

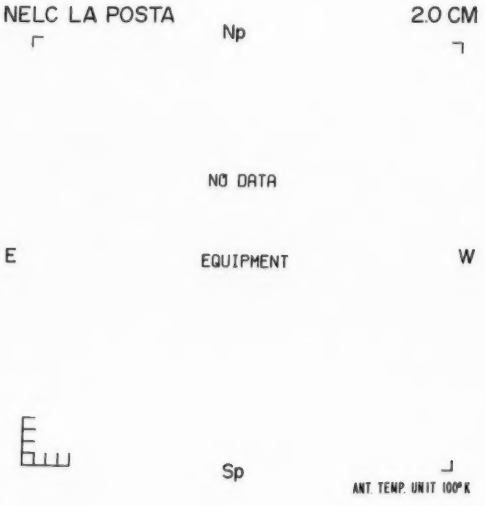
RAMEY AFB
02



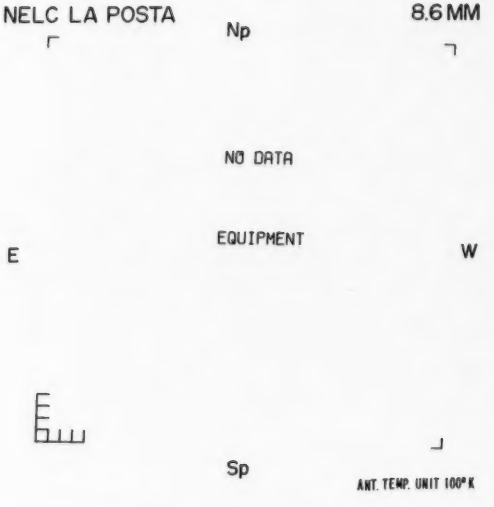
BOULDER



NELC LA POSTA



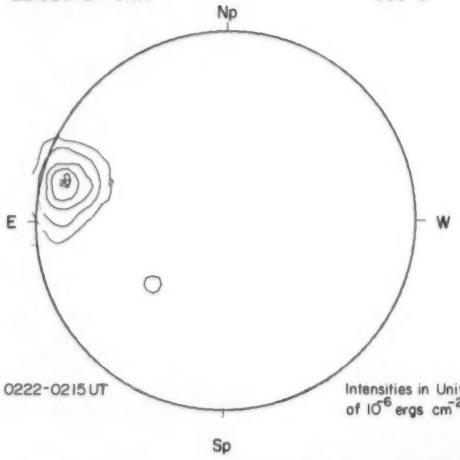
NELC LA POSTA



NOVEMBER 3, 1974 (P = 24.26, B_o = 4.17, L_o = 343.70)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

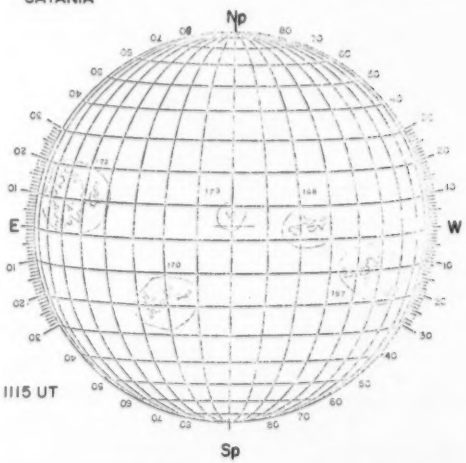


0222-0215 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

CATANIA

CALCIUM REPORT

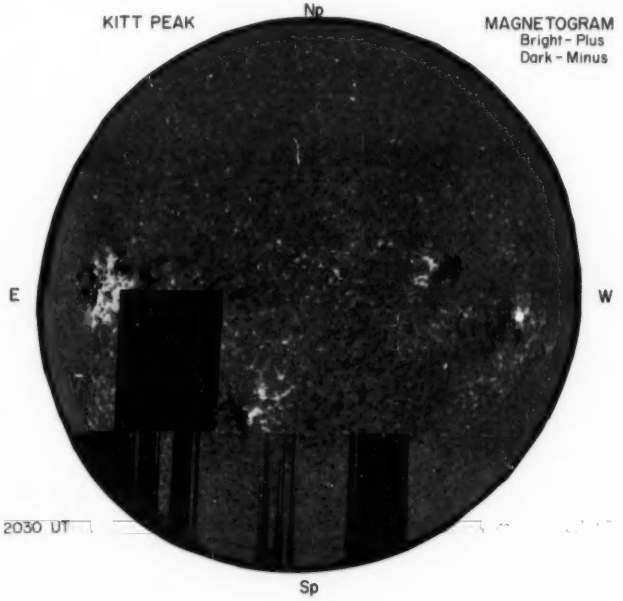


1115 UT

POOR	SS
167-1660	- - -
168-0885	- - -
170-1230	- - -
172-9834	- - -

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

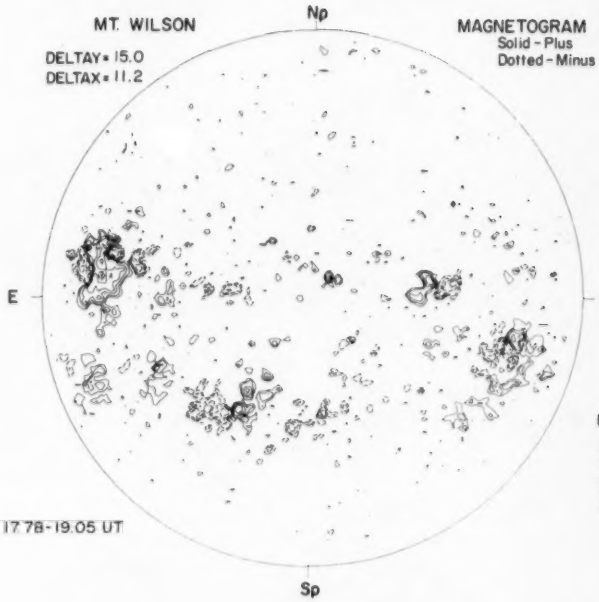


2030 UT

MT. WILSON

DELTAY = 15.0
DELTAX = 11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus



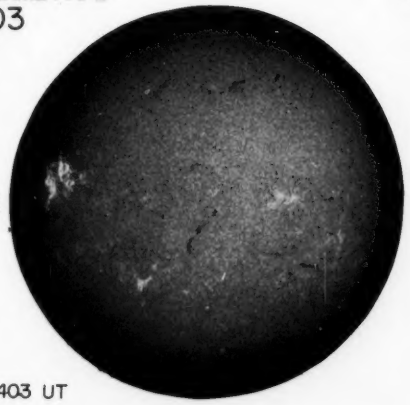
17.78-19.05 UT

Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
03

Np

Hα



E

W

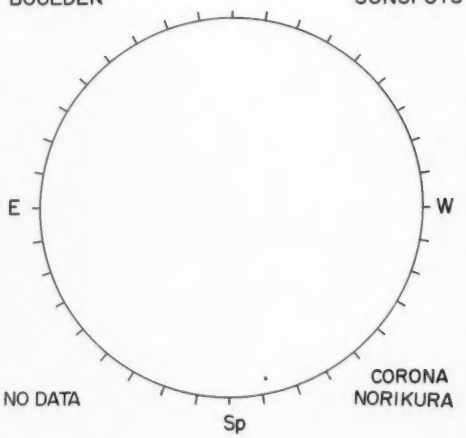
1403 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

NO DATA

CORONA
NORIKURA

Sp

NELC LA POSTA

Np

2.0 CM

NO DATA

E

EQUIPMENT

W

Sp

ANT. TEMP. UNIT 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E

EQUIPMENT

W

Sp

ANT. TEMP. UNIT 100°K

31
Nov 74

NOVEMBER 4, 1974 (P = 24.08, B_o = 4.07, L_o = 330.52)

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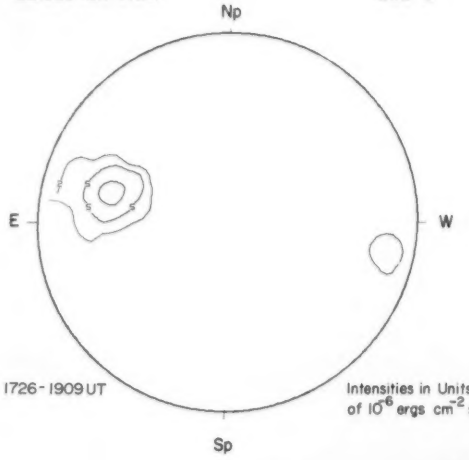
LEICESTER UNIV.

X-RAY
OSO-5

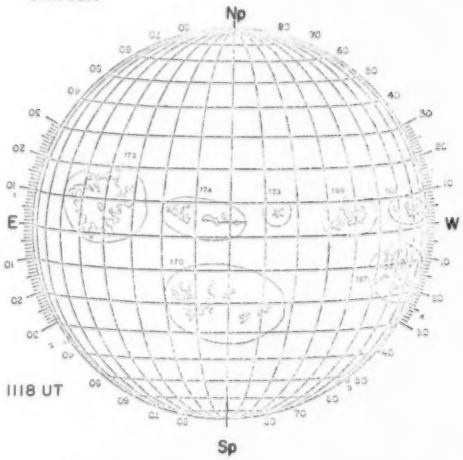


1726-1909 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

CALCIUM REPORT

CATANIA

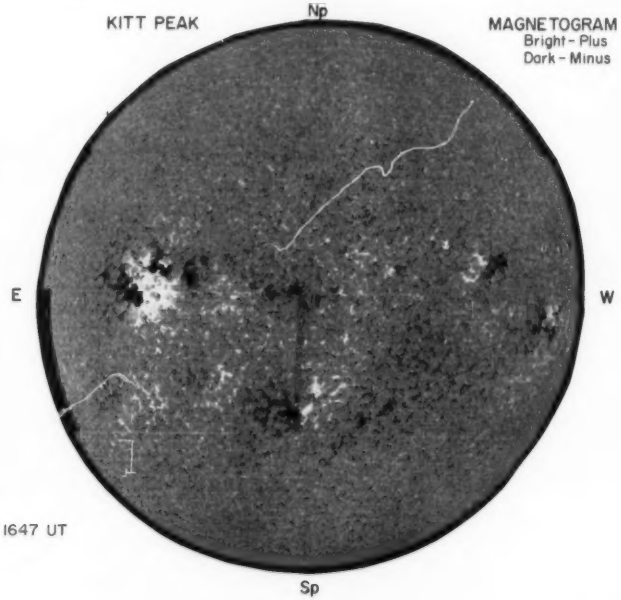


FAIR	SS
167	3545
168	1397
170	2504
172	1162

1118 UT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

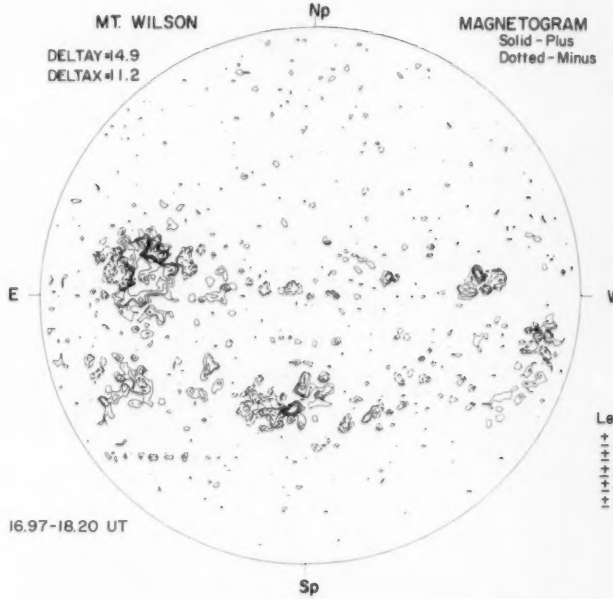


1647 UT

MT. WILSON

DELTAY = 14.9
DELTAX = 11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus



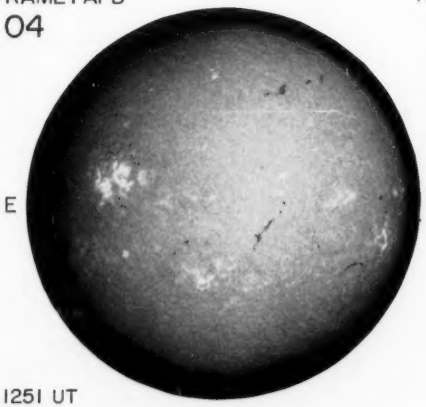
Levels
± 5
± 10
± 20
± 40
± 80

16.97-18.20 UT

RAMEY AFB
04

Np

Hα



E

W

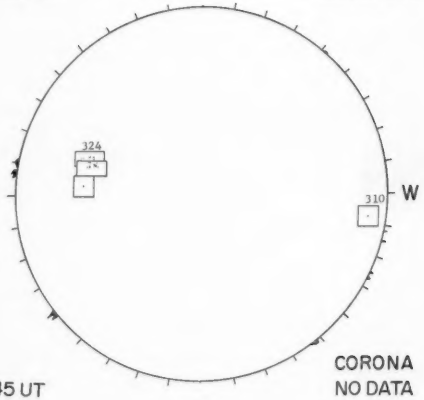
Sp

1251 UT

BOULDER

Np

SUNSPOTS



E

W

Sp

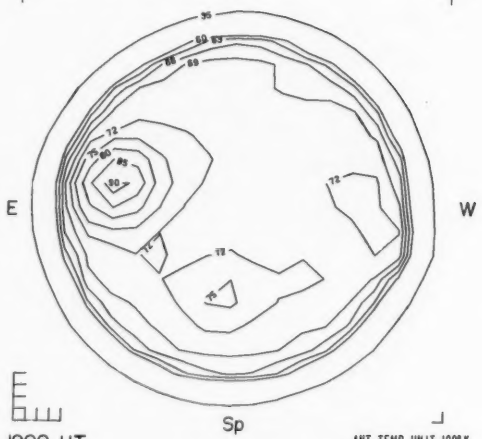
1445 UT

CORONA
NO DATA

NELC LA POSTA

2.0 CM

Np



E

W

Sp

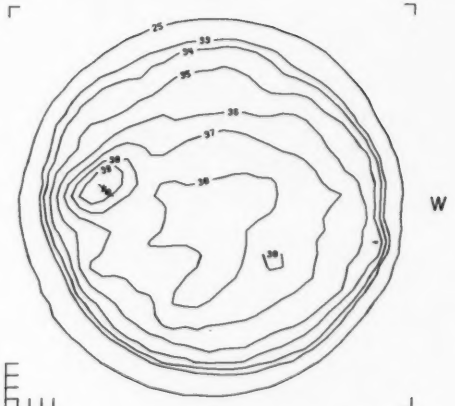
1900 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

8.6 MM

Np



E

W

Sp

2003 UT

ANT. TEMP. UNIT 100°K

NOVEMBER 5, 1974 (P = 23.89, B_o = 3.97, L_o = 317.33)

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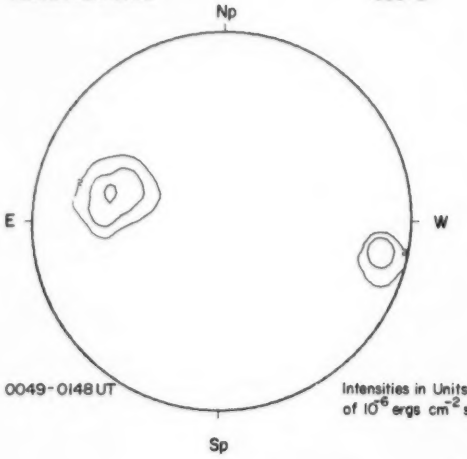
LEICESTER UNIV.

X-RAY
OSO-5

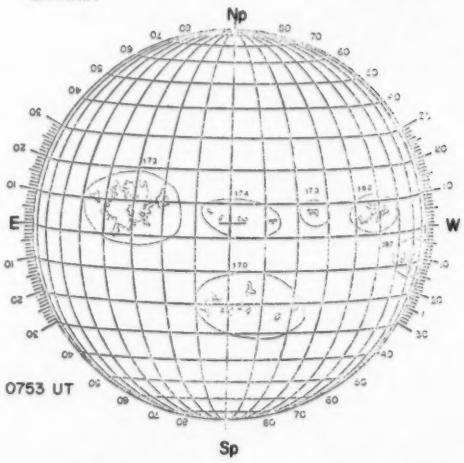


0049-0148 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

CATANIA

CALCIUM REPORT

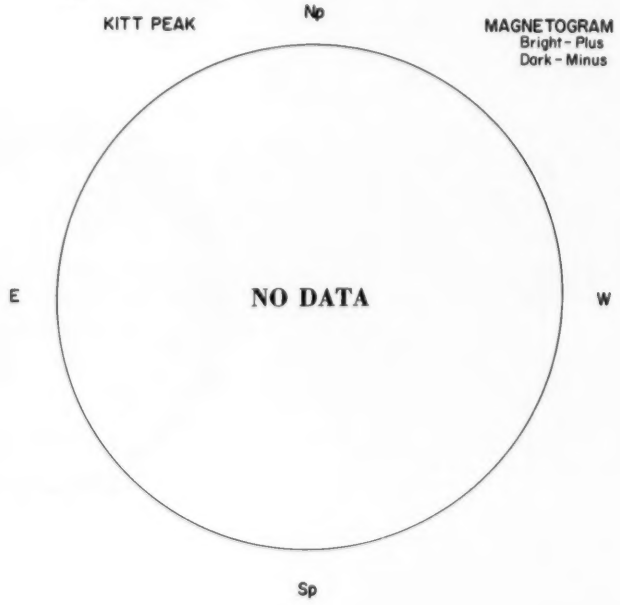


0753 UT

POOR	GD
167-1659	---
168-0894	---
170-1301	---
172-7114	---

KITT PEAK

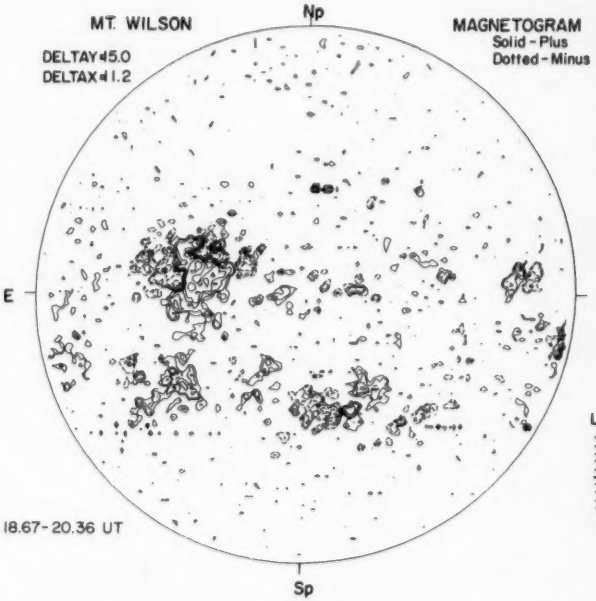
MAGNETOGRAM
Bright - Plus
Dark - Minus



MT. WILSON

DELTAY=5.0
DELTAX=1.2

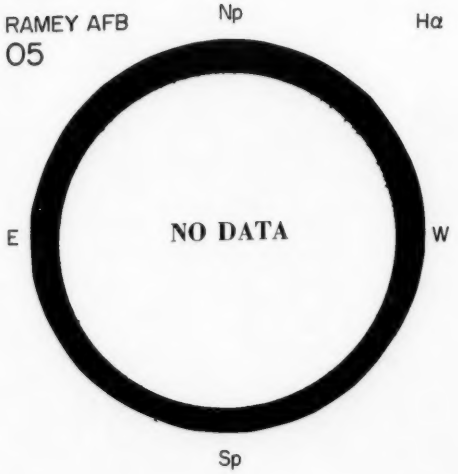
MAGNETOGRAM
Solid - Plus
Dotted - Minus

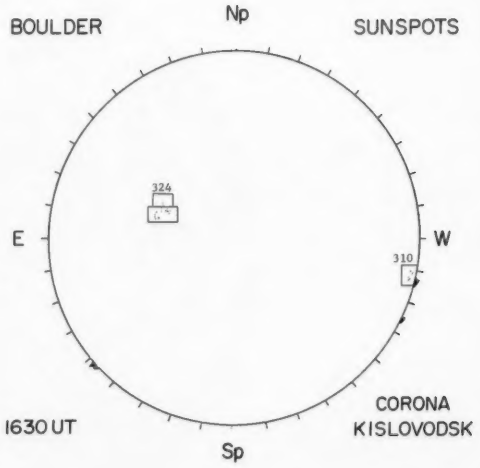


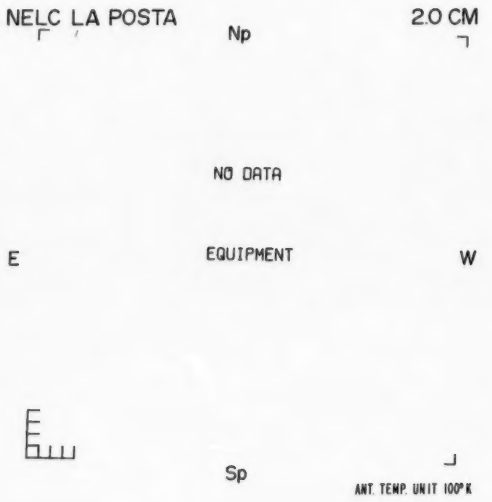
18.67-20.36 UT

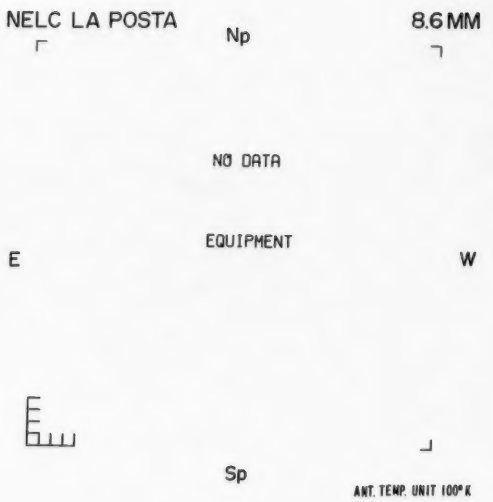
Levels
±5
±10
±20
±40
±80

RAMEY AFB
05


Np
Hα
E
NO DATA
W
Sp


BOULDER
Np
SUNSPOTS
324
E
W
310
1630 UT
CORONA
KISLOVODSK
Sp

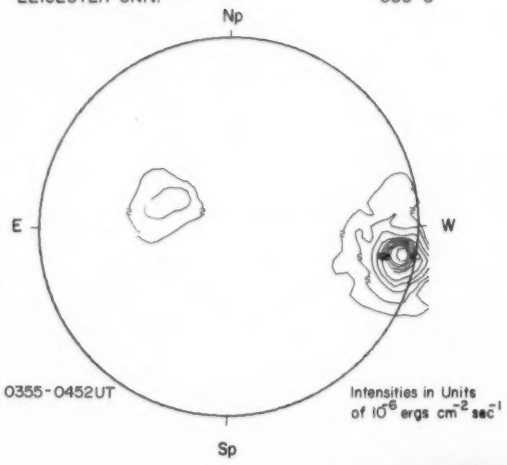

NELC LA POSTA
Np
2.0 CM
NO DATA
E
EQUIPMENT
W
Sp
ANT. TEMP. UNIT 100°K


NELC LA POSTA
Np
8.6 MM
NO DATA
E
EQUIPMENT
W
Sp
ANT. TEMP. UNIT 100°K

NOVEMBER 6, 1974 (P = 23.69, B_o = 3.86, L_o = 304.15)

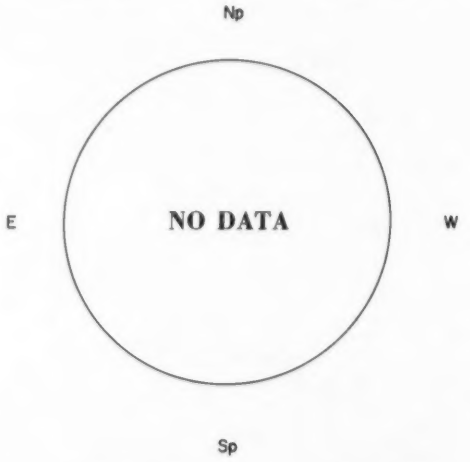
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



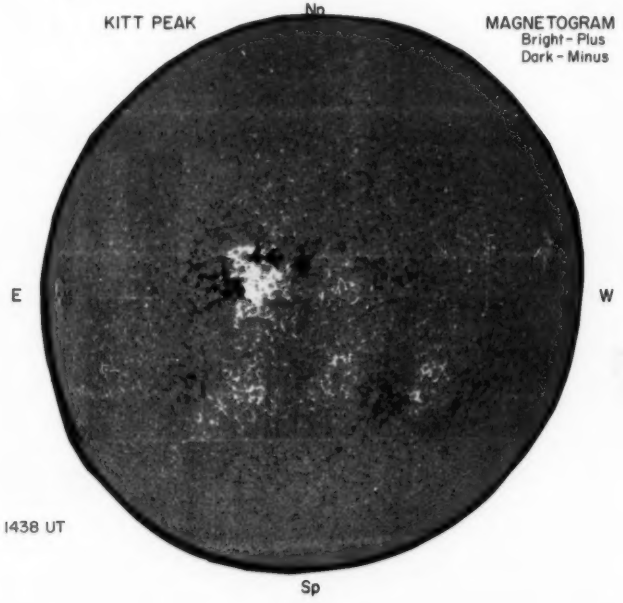
McMATH-HULBERT

CALCIUM REPORT



KITT PEAK

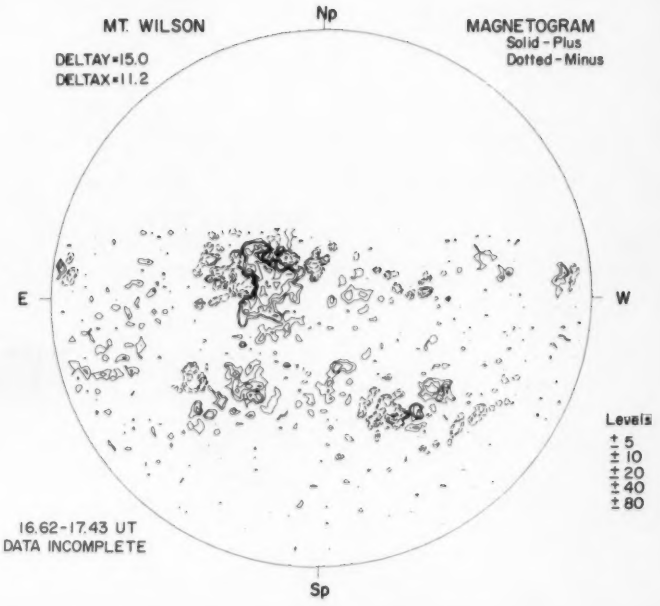
MAGNETOGRAM
Bright - Plus
Dark - Minus



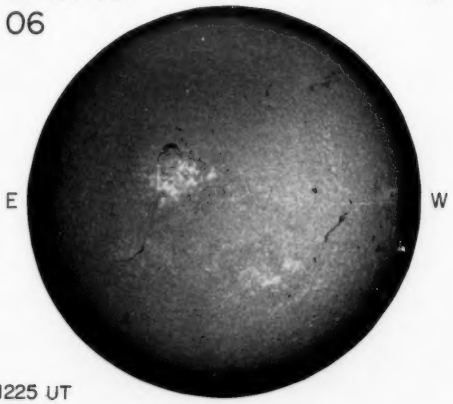
MT. WILSON

DELTAY=15.0
DELTAX=11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus

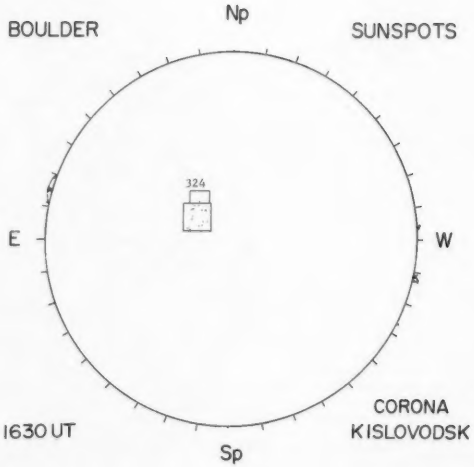


RAMEY AFB
06



1225 UT

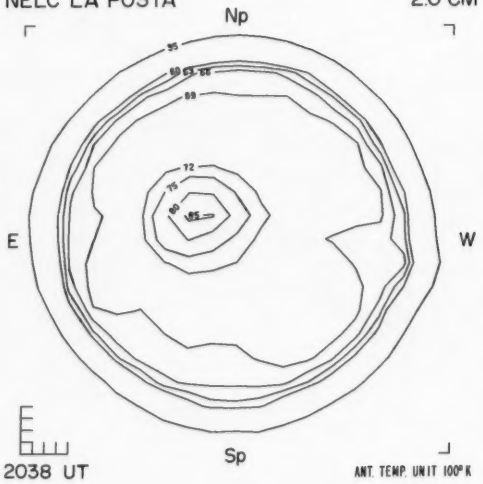
BOULDER



1630 UT

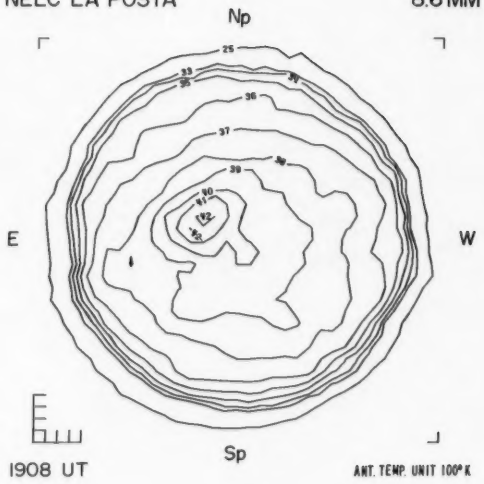
CORONA
KISLOVODSK

NELC LA POSTA



2038 UT

NELC LA POSTA



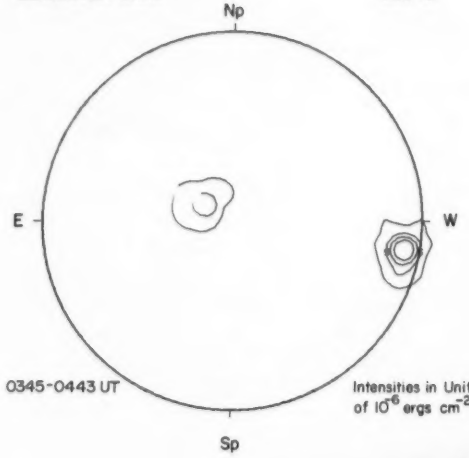
1908 UT

37
Nov 74

NOVEMBER 7, 1974 (P = 23.48, B_o = 3.75, L_o = 290.96)

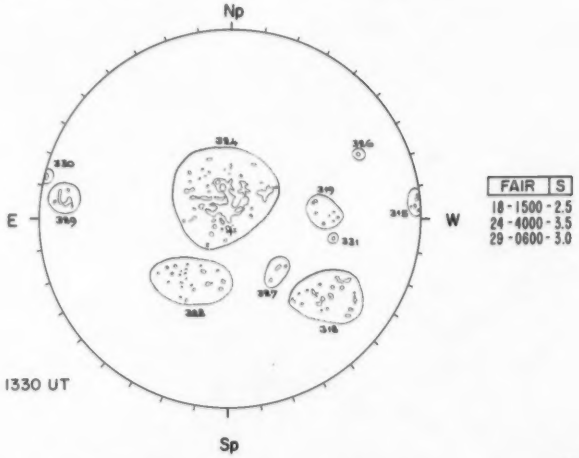
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



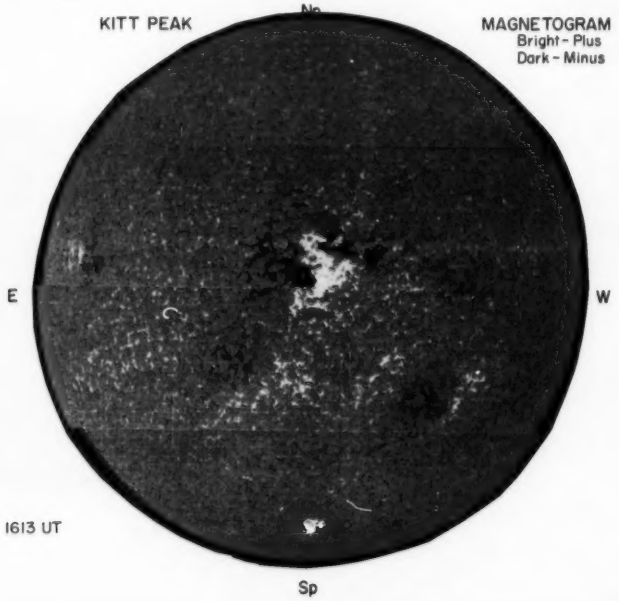
McMATH-HULBERT

CALCIUM REPORT



KITT PEAK

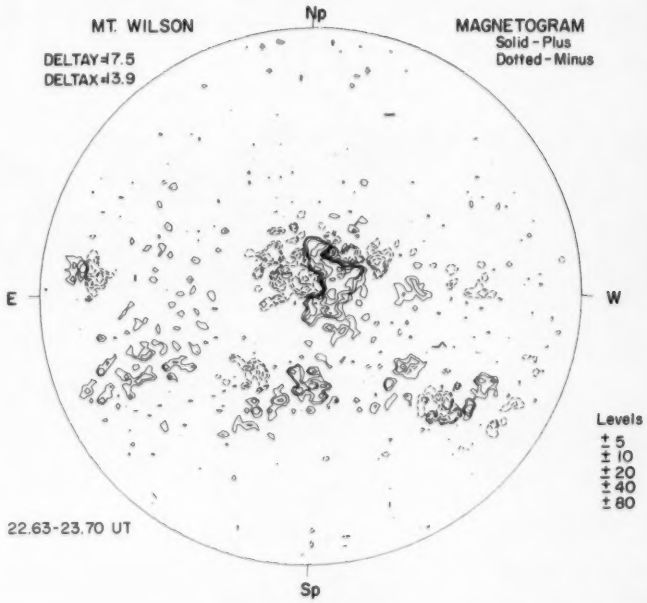
MAGNETOGRAM
Bright - Plus
Dark - Minus



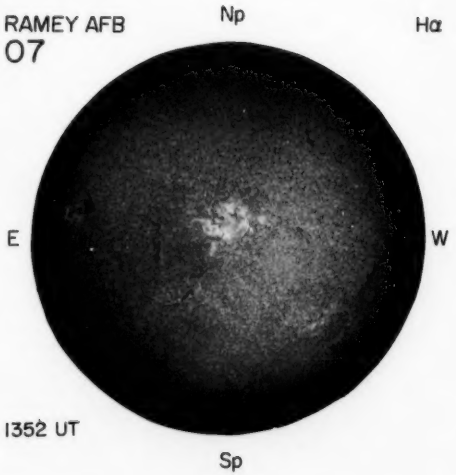
MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY=17.5
DELTAX=13.9

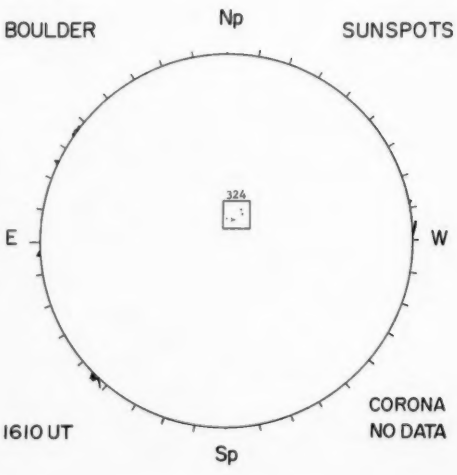


RAMEY AFB
07



1352 UT

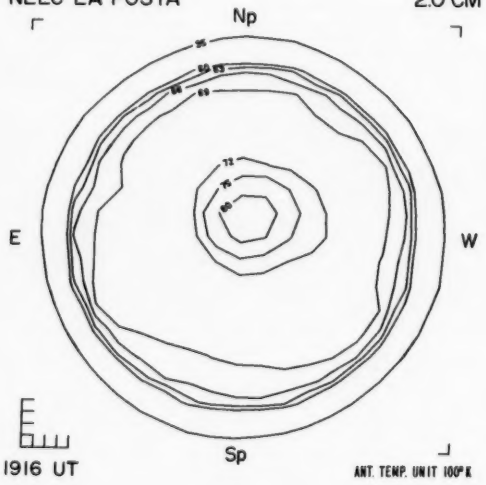
BOULDER



1610 UT

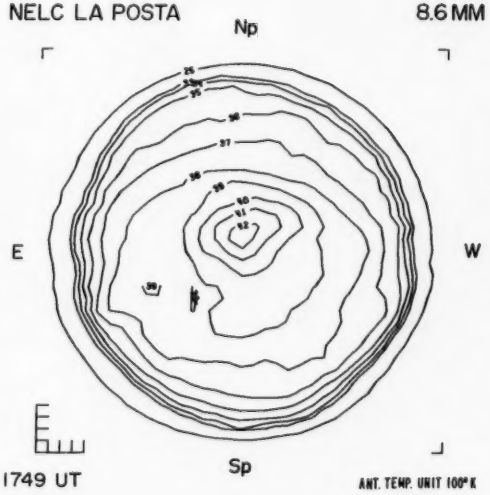
CORONA
NO DATA

NELC LA POSTA



1916 UT

NELC LA POSTA

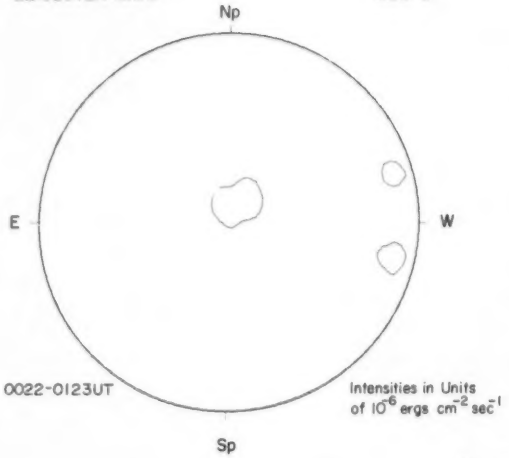


1749 UT

NOVEMBER 8, 1974 (P = 23.26, B_o = 3.64, L_o = 277.78)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

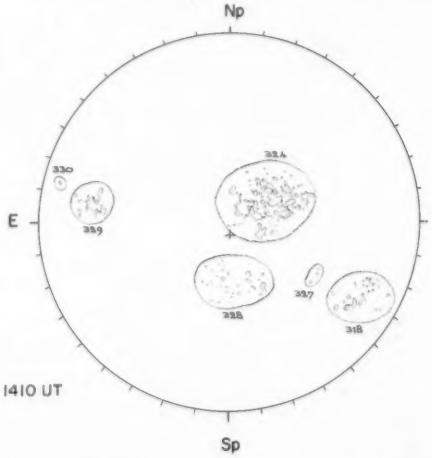


0022-0123UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1410 UT

GOOD | M
24 - 3800 - 3.5

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

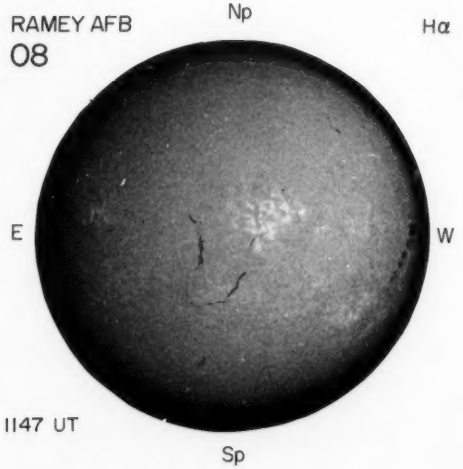
MT. WILSON

DELTAY=
DELTAX=

MAGNETOGRAM
Solid - Plus
Dotted - Minus

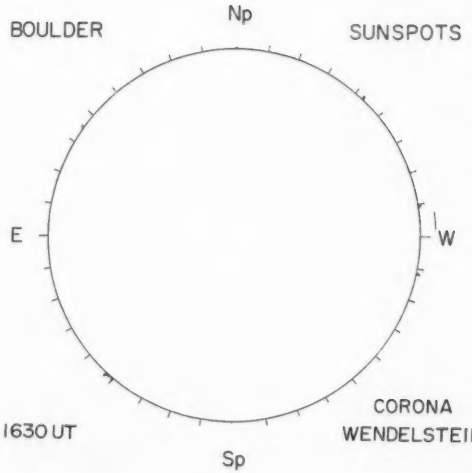
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
08



1147 UT

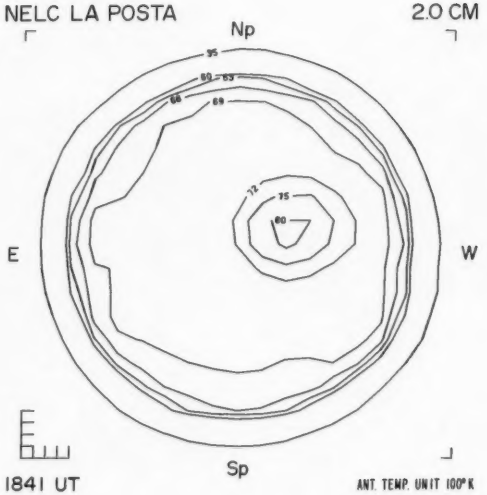
BOULDER



1630 UT

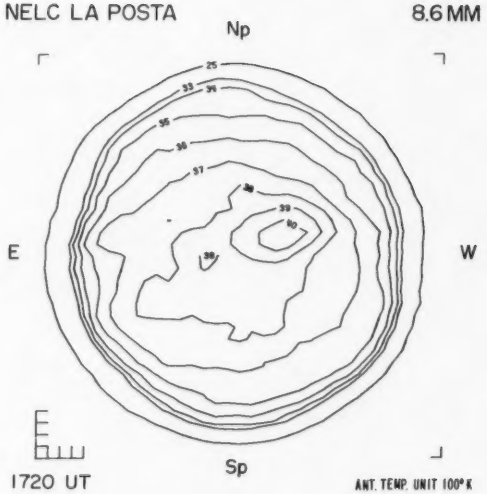
CORONA
WENDELSTEIN

NELC LA POSTA 2.0 CM



1841 UT

NELC LA POSTA 8.6 MM

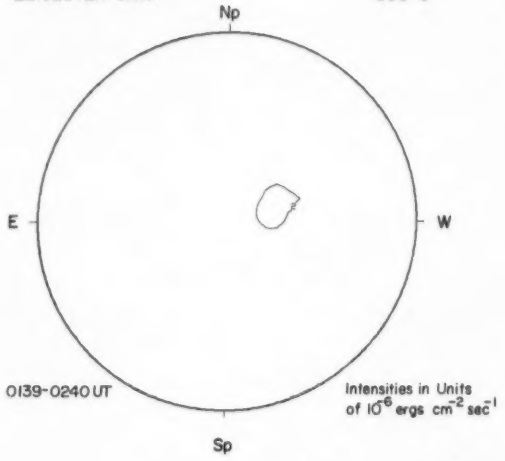


1720 UT

NOVEMBER 9, 1974 (P = 23.04, B_o = 3.53, L_o = 264.59)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

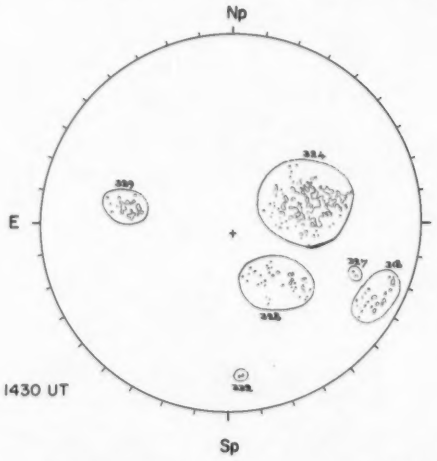


0139-0240 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

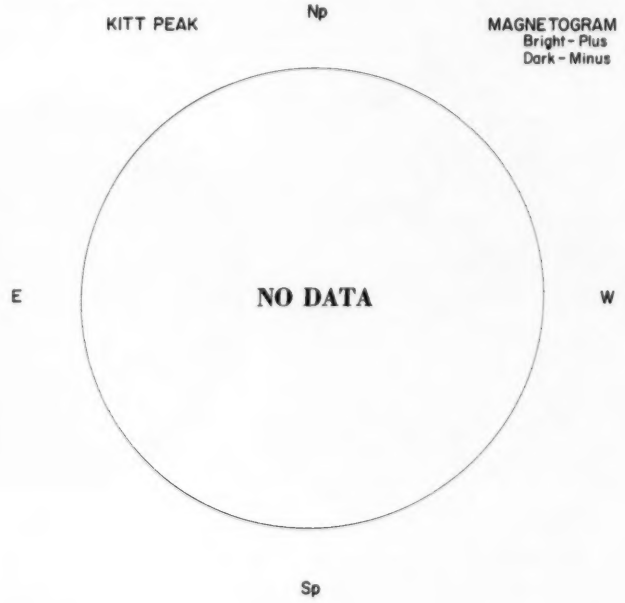
CALCIUM REPORT



1430 UT

GOOD | M
24 - 3900 - 3.0

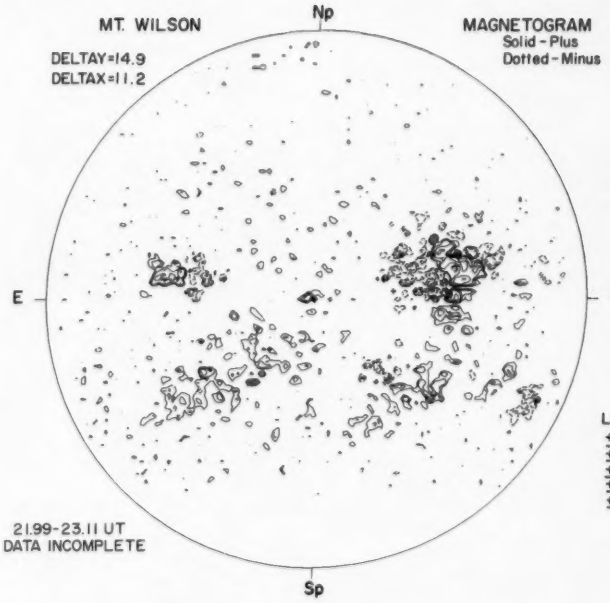
KITT PEAK



MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY=14.9
DELTAX=11.2



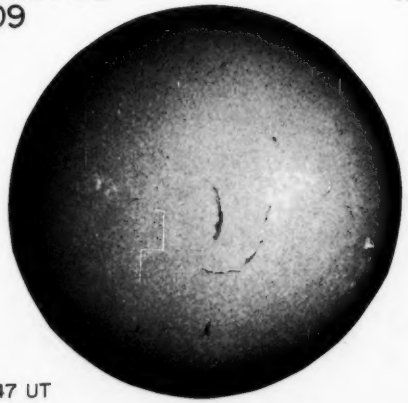
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
±5
±10
±20
±40
±80

21.99-23.11 UT
DATA INCOMPLETE

RAMEY AFB
09

Np



E W

Sp

1147 UT

Hα

BOULDER

Np

NO DATA

E W

Sp

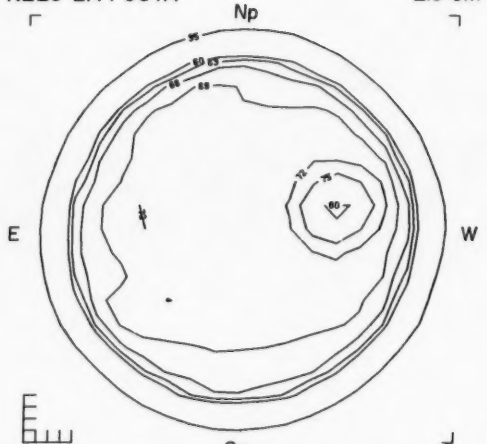
SUNSPOTS

CORONA

NELC LA POSTA

2.0 CM

Np



E W

Sp

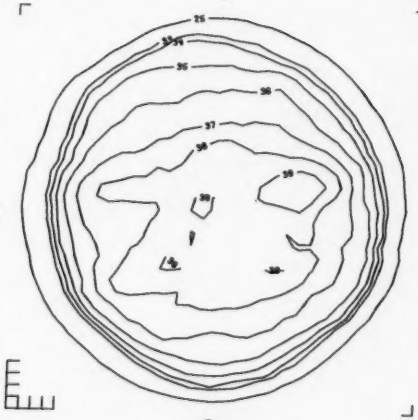
1921 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

8.6 MM

Np



E W

Sp

1753 UT

ANT. TEMP. UNIT 100°K

NOVEMBER 10, 1974 (P = 22.81, B_o = 3.42, L_o = 251.41)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E

NO DATA

W

Sp

Intensities in Units
of 10^6 ergs cm^{-2} sec^{-1}

CATANIA

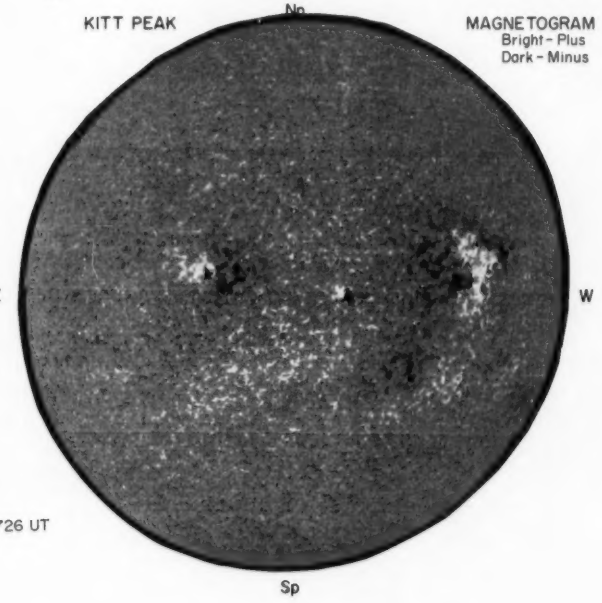
CALCIUM REPORT

	POOR	GD
172 - 4854	-	-
176 - 0572	-	-
175 - 2001	-	-

1310 UT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

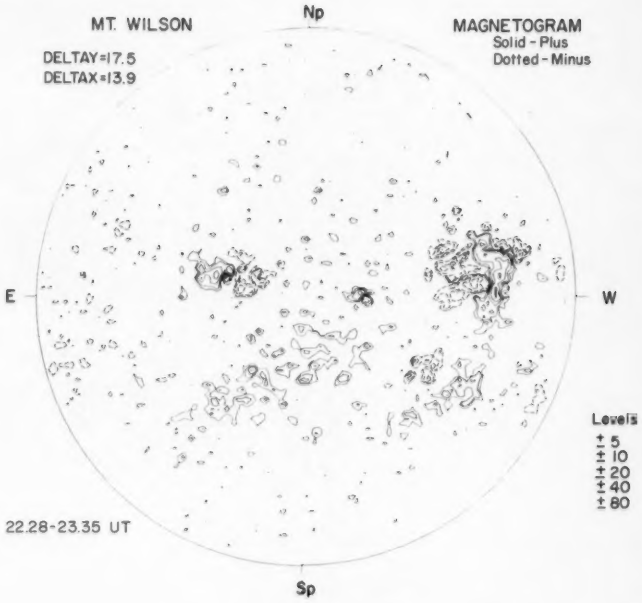


1726 UT

MT. WILSON

DELTAY=17.5
DELTAX=13.9

MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
±5
±10
±20
±40
±80

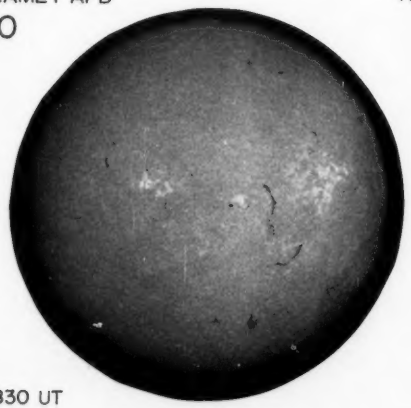
22.28-23.35 UT

RAMEY AFB

10

Np

Hα



E

W

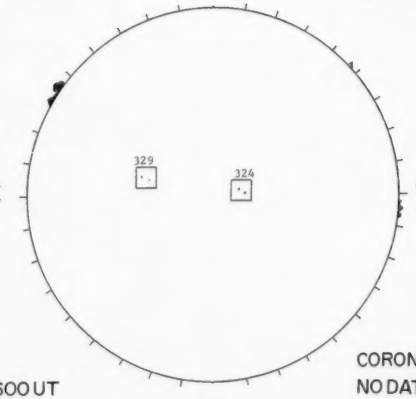
Sp

1830 UT

BOULDER

Np

SUNSPOTS



E

W

Sp

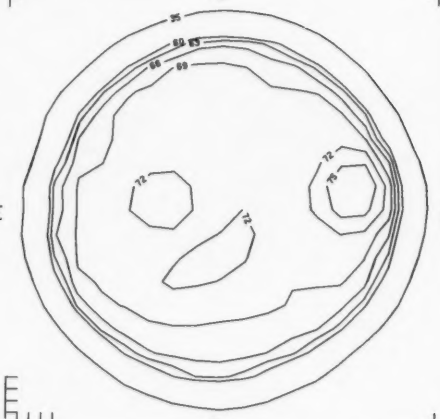
1600 UT

CORONA
NO DATA

NELC LA POSTA

2.0 CM

Np



E

W

Sp

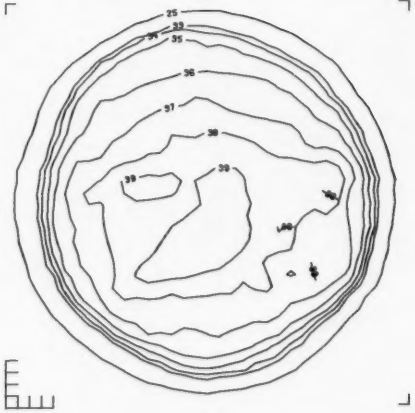
1908 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

8.6 MM

Np



E

W

Sp

1734 UT

ANT. TEMP. UNIT 100°K

45
Nov 74

NOVEMBER 11, 1974 (P = 22.57, B_o = 3.31, L_o = 238.22)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

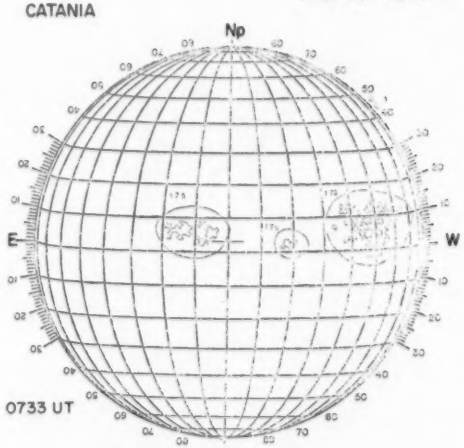
E — NO DATA — W

Sp

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

CATANIA

CALCIUM REPORT



0733 UT

POOR	GD
172 - 4741	---
176 - 0359	---
175 - 1652	---

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

Np

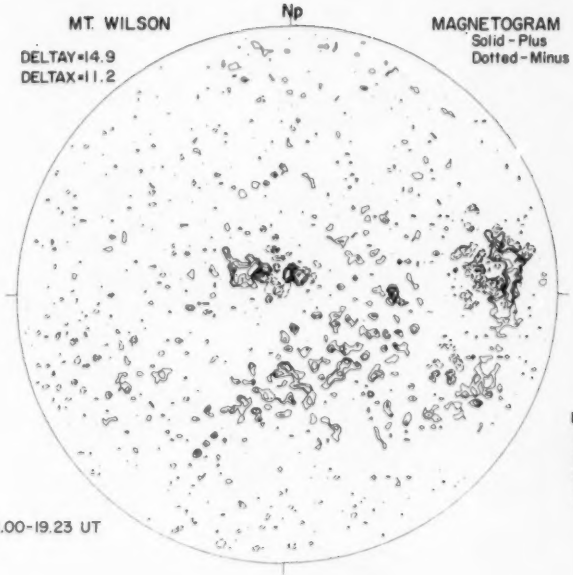
E — NO DATA — W

Sp

MT. WILSON

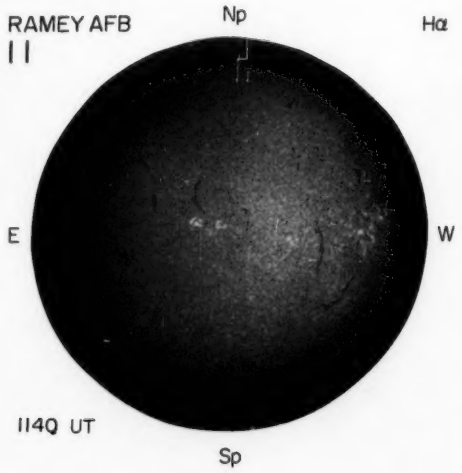
DELTAY=14.9
DELTAX=11.2

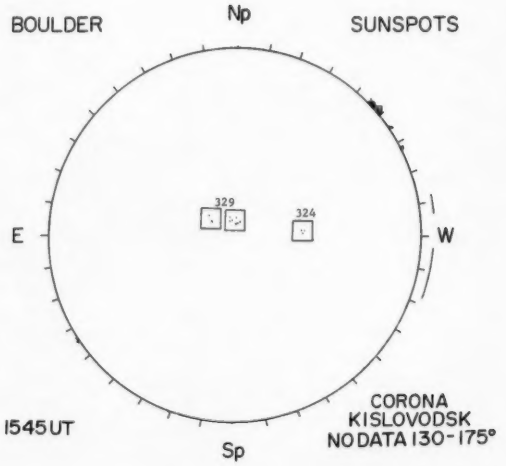
MAGNETOGRAM
Solid - Plus
Dotted - Minus

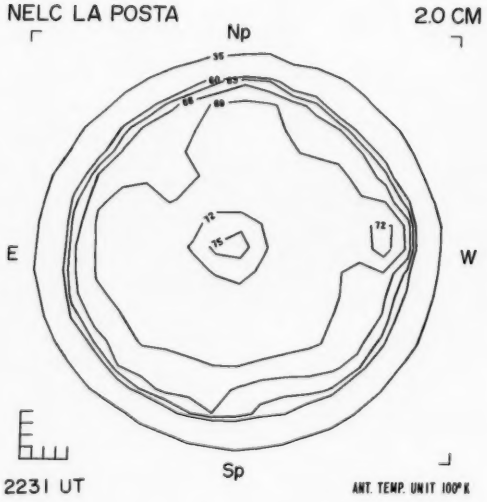


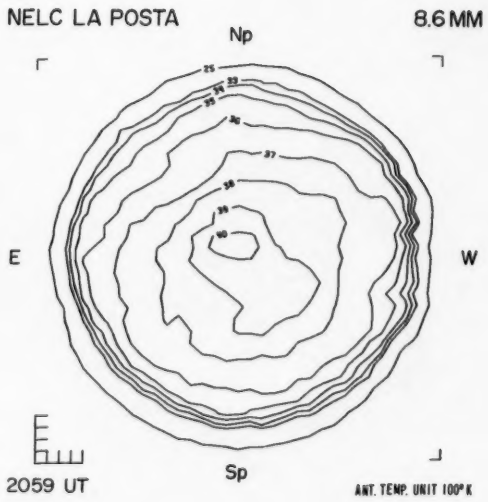
18.00-19.23 UT

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
Np
Hα
E
W
Sp
1140 UT


BOULDER
Np
SUNSPOTS
329
324
E
W
Sp
1545UT
CORONA
KISLOVODSK
NO DATA 130-175°

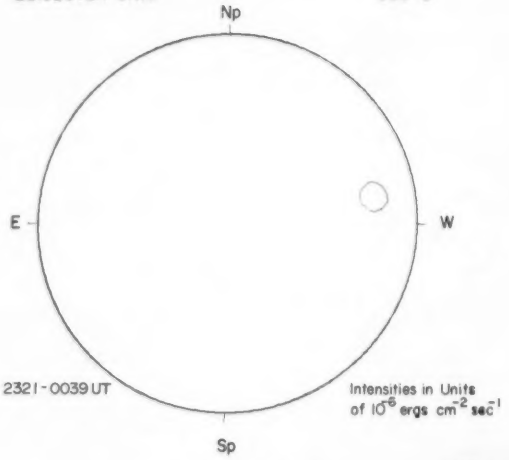

NELC LA POSTA
2.0 CM
Np
E
W
Sp
2231 UT
ANT. TEMP. UNIT 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
2059 UT
ANT. TEMP. UNIT 100°K

NOVEMBER 12, 1974 (P = 22.33, B_o = 3.19, L_o = 225.04)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

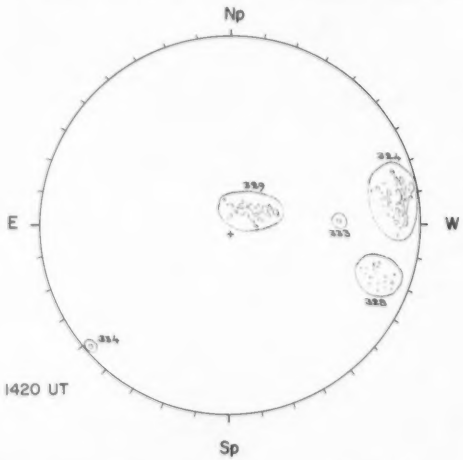


2321-0039 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

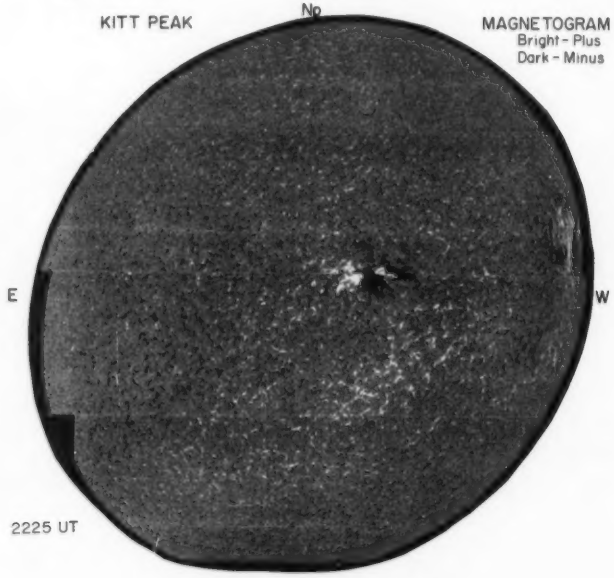


1420 UT

FAIR	M
24 - 3400 - 2.5	
28 - 1300 - 3.0	
33 - 0100 - 2.5	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

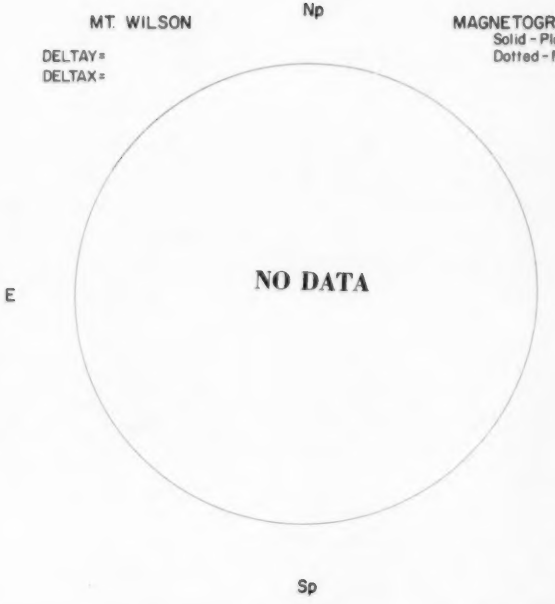


2225 UT

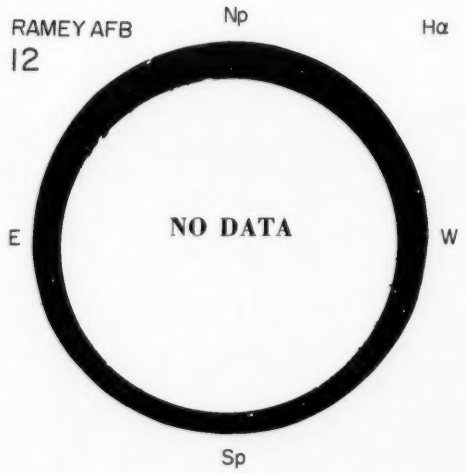
MT. WILSON

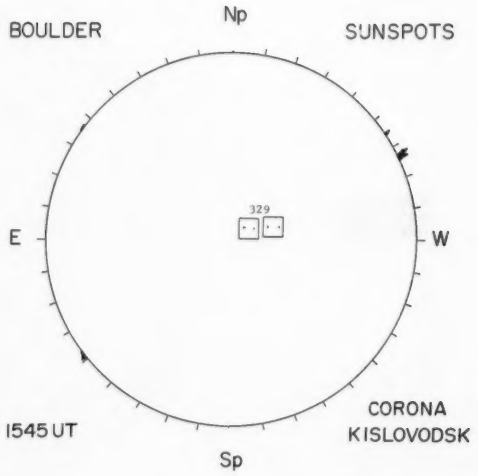
DELTAY=
DELTAX=

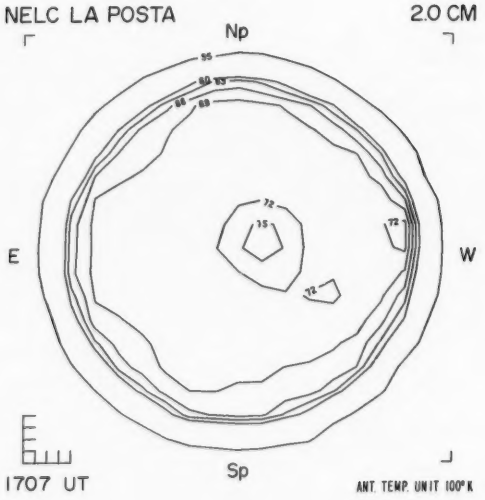
MAGNETOGRAM
Solid - Plus
Dotted - Minus

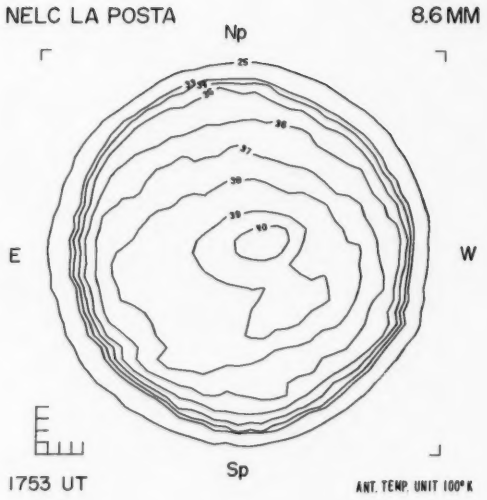


Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
12
Np
Hα
E
NO DATA
W
Sp


BOULDER
Np
SUNSPOTS
329
E
W
1545 UT
CORONA
KISLOVODSK
Sp


NELC LA POSTA
2.0 CM
Np
E
W
Sp
1707 UT
ANT. TEMP. UNIT 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
1753 UT
ANT. TEMP. UNIT 100°K

NOVEMBER 13, 1974 (P = 22.07, B_o = 3.08, L_o = 211.86)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E

NO DATA

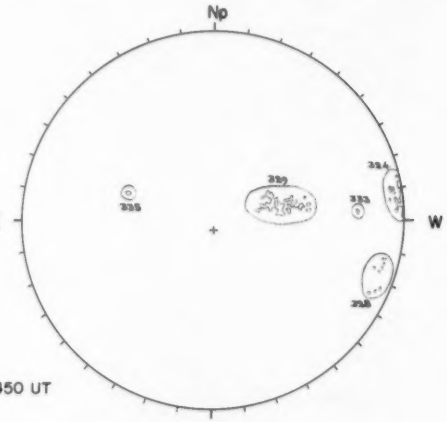
W

Sp

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

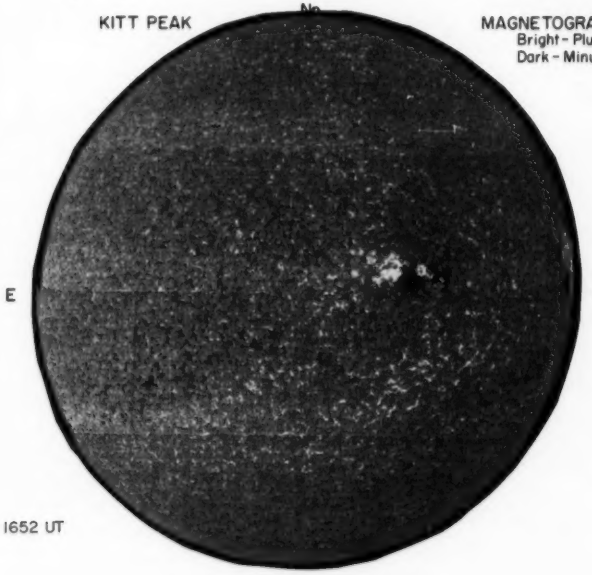


1450 UT

POOR	M
29 - 1500 - 3.0	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



1652 UT

MT. WILSON

DELTAY=
DELTAX=

MAGNETOGRAM
Solid - Plus
Dotted - Minus

Np

E

NO DATA

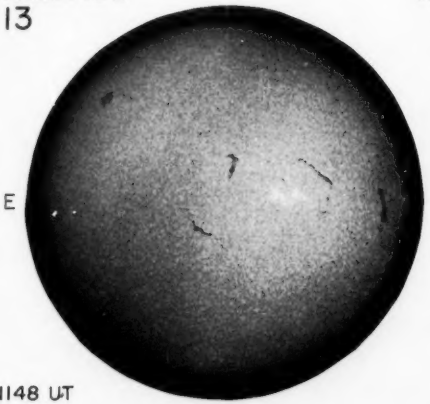
W

Sp

Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB

13



1148 UT

Hα

BOULDER

Np

E

NO DATA

W

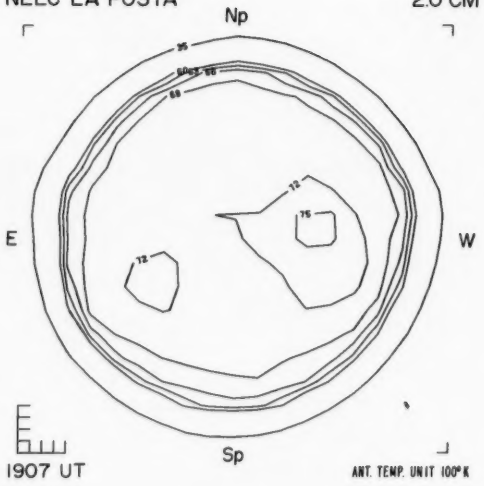
Sp

SUNSPOTS

CORONA

NELC LA POSTA

2.0 CM

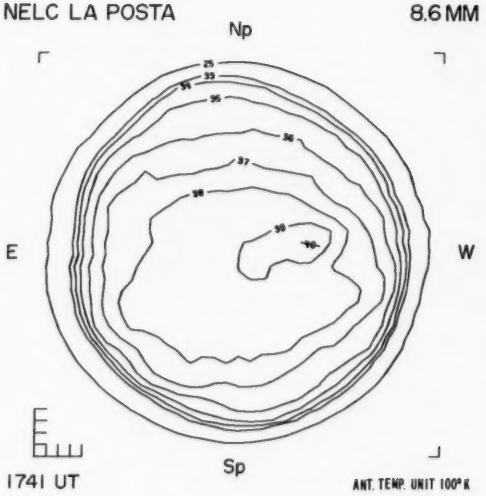


1907 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

8.6 MM



1741 UT

ANT. TEMP. UNIT 100°K

NOVEMBER 14, 1974 (P = 21.81, B_o = 2.96, L_o = 198.68)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E

NO DATA

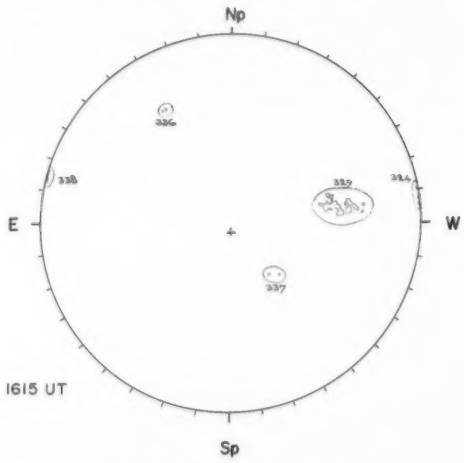
W

Sp

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

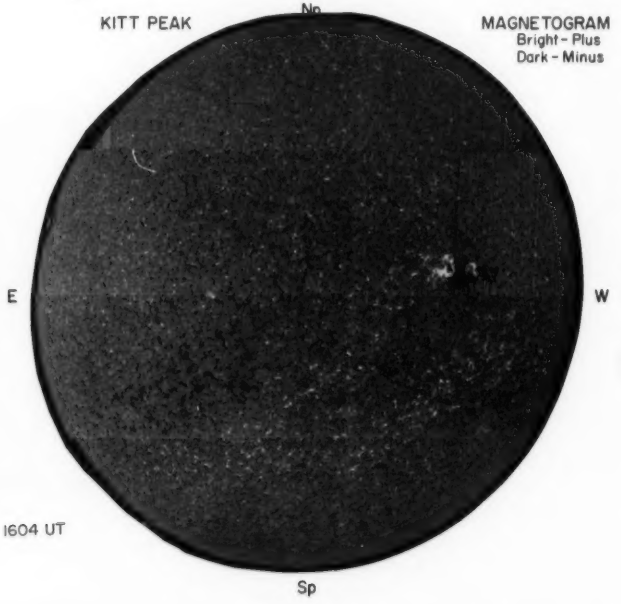


POOR | M
29 - 1400 - 3.0

1615 UT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

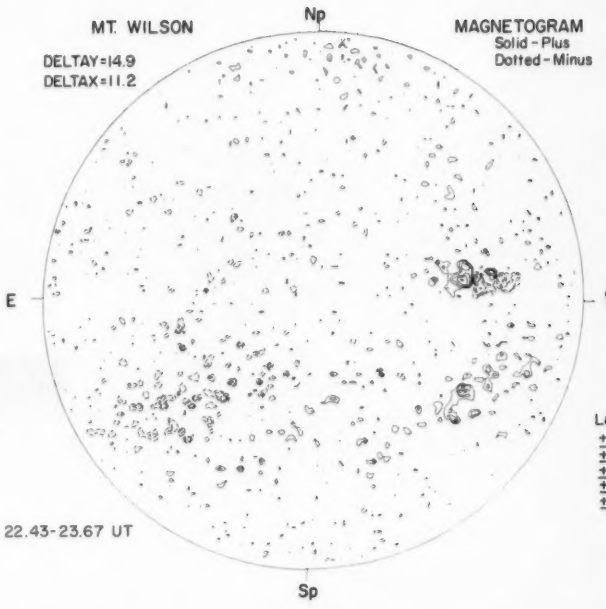


1604 UT

MT. WILSON

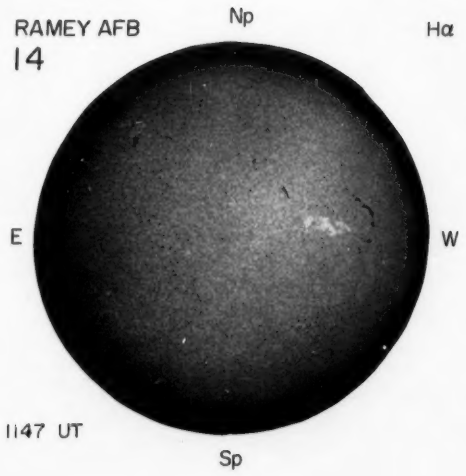
DELTAY=14.9
DELTAX=11.2

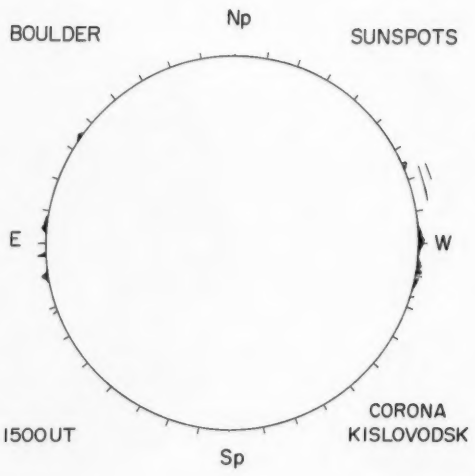
MAGNETOGRAM
Solid - Plus
Dotted - Minus

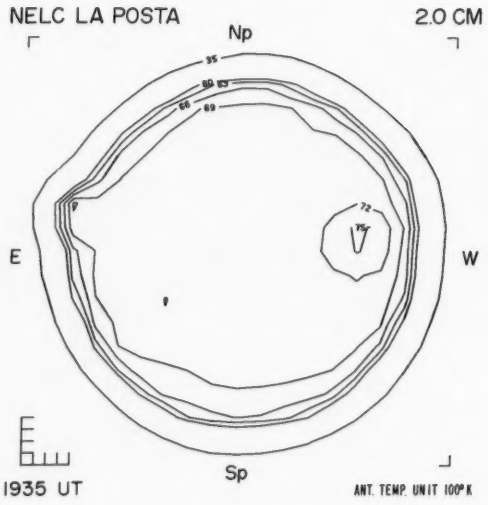


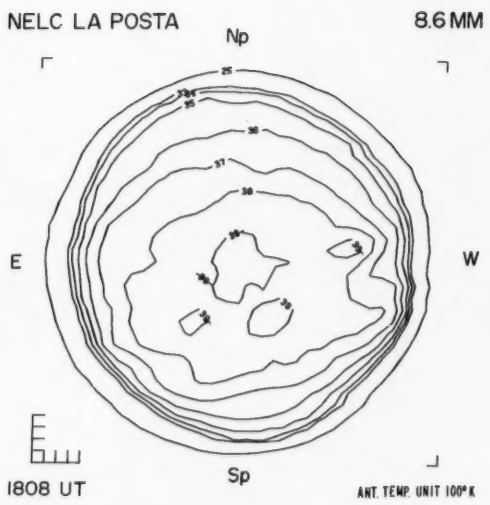
Levels
± 5
± 10
± 20
± 40
± 80

22.43-23.67 UT


RAMEY AFB
14
Np
Hα
E
W
1147 UT
Sp


BOULDER
Np
SUNSPOTS
E
W
1500UT
Sp
CORONA
KISLOVODSK

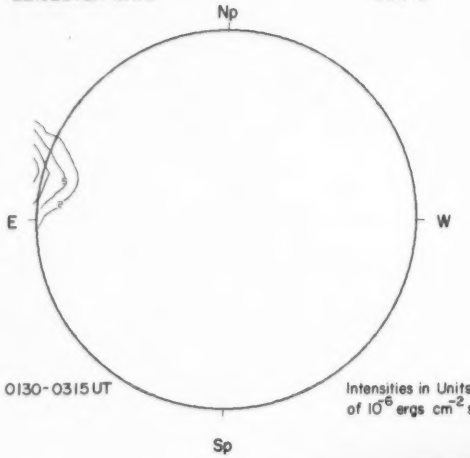

NELC LA POSTA
2.0 CM
Np
E
W
Sp
1935 UT
ANT. TEMP. UNIT 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
1808 UT
ANT. TEMP. UNIT 100°K

NOVEMBER 15, 1974 (P= 21.54, B_o = 2.85, L_o = 185.49)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



0130-0315 UT

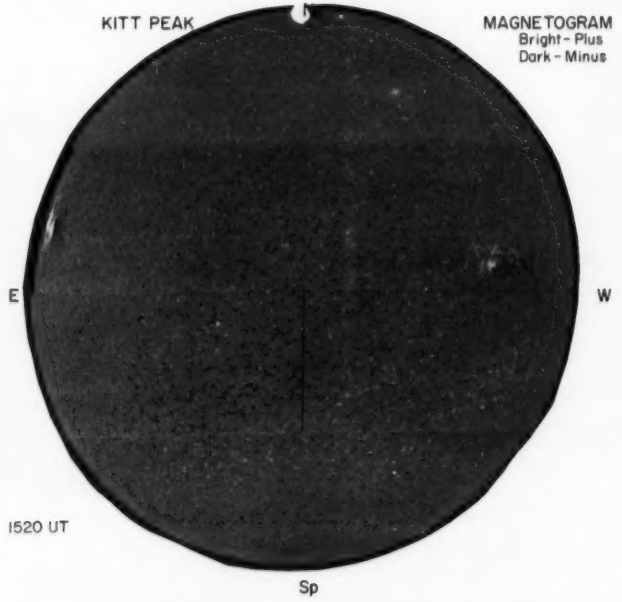
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

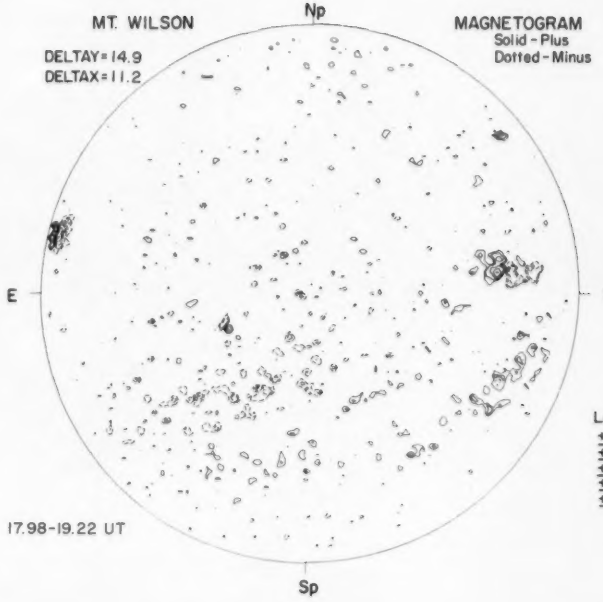


1520 UT

MT. WILSON

DELTAY= 14.9
DELTAX= 11.2

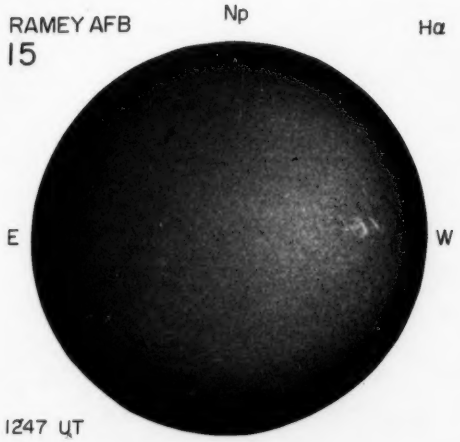
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

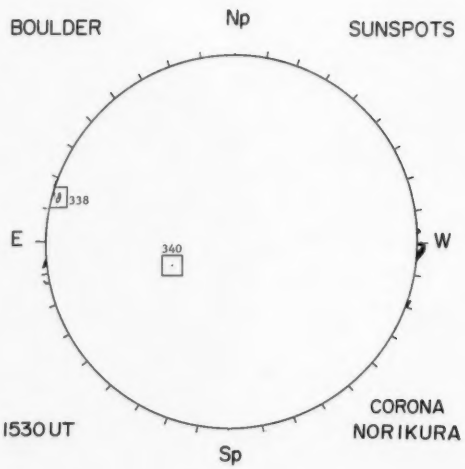
17.98-19.22 UT

RAMEY AFB
15



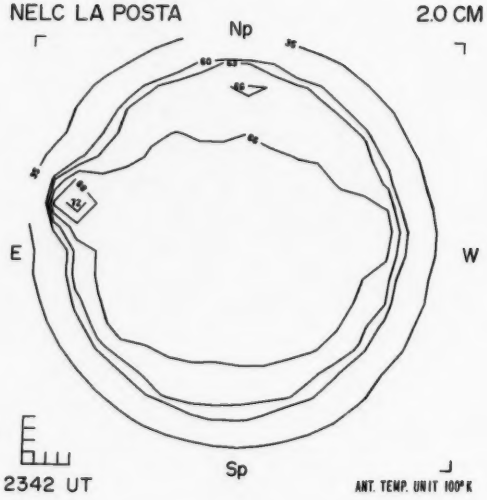
1247 UT

BOULDER



1530 UT

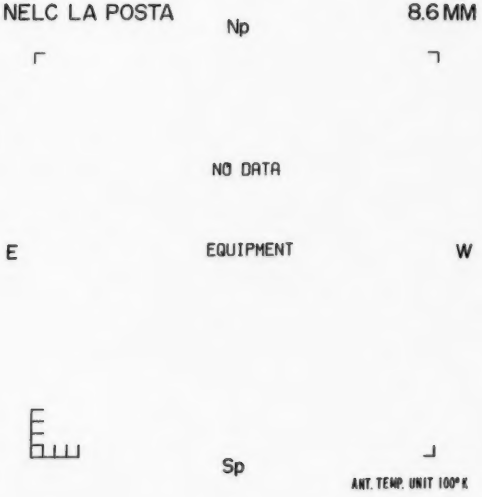
NELC LA POSTA



2342 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

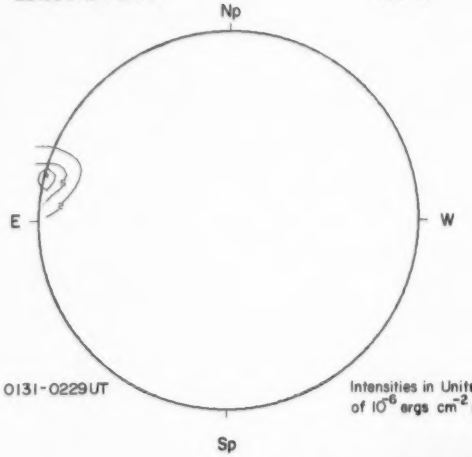


ANT. TEMP. UNIT 100°K

NOVEMBER 16, 1974 (P= 21.26, B_o = 2.73, L_o = 172.31)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

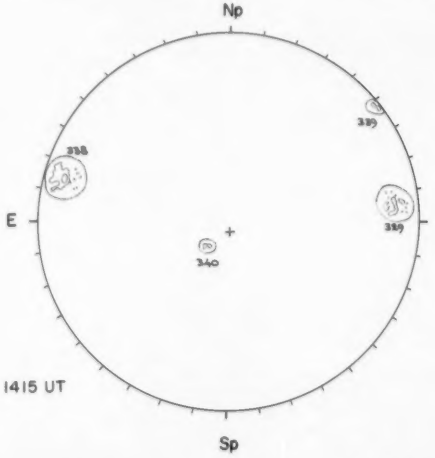


0131-0229UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

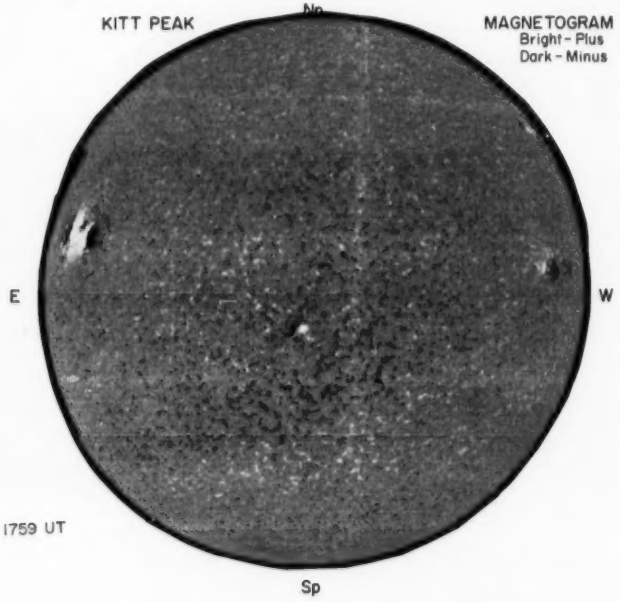


1415 UT

FAIR	M
29 - 1300 - 2.5	
38 - 3200 - 3.5	
39 - 0400 - 2.5	
40 - 0200 - 3.0	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

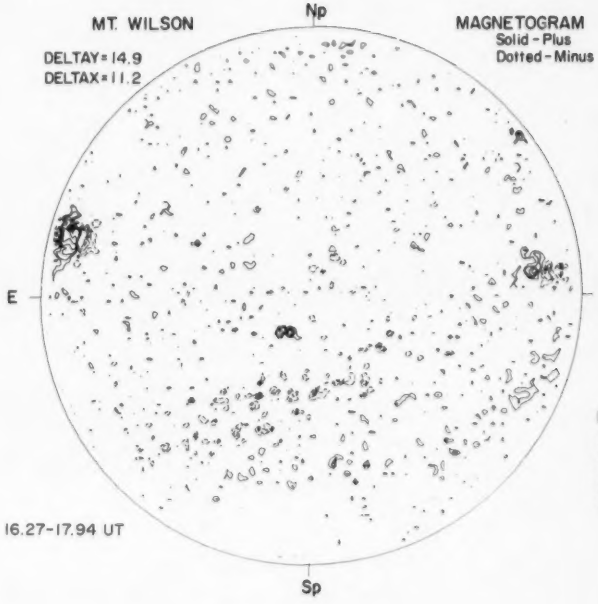


1759 UT

MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 14.9
DELTAX = 11.2



16.27-17.94 UT

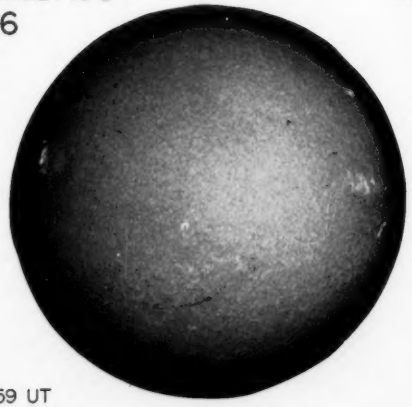
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB

16

Np

Hα



E

W

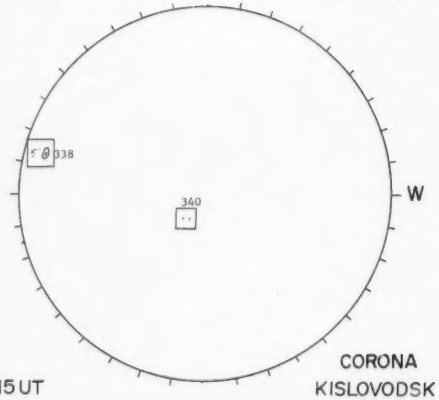
1259 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1615 UT

Sp

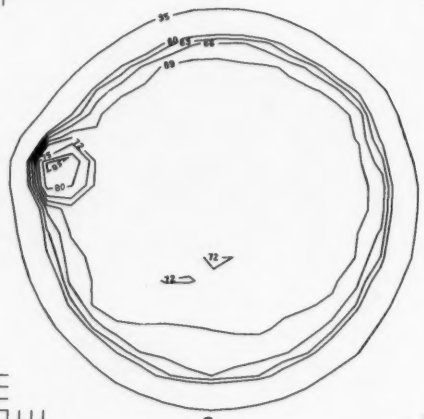
CORONA

KISLOVODSK

NELC LA POSTA

2.0 CM

Np



E

W

1952 UT

Sp

ANT. TEMP. UNIT 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

CLOUDY

E

W

2055 UT

Sp

ANT. TEMP. UNIT 100°K

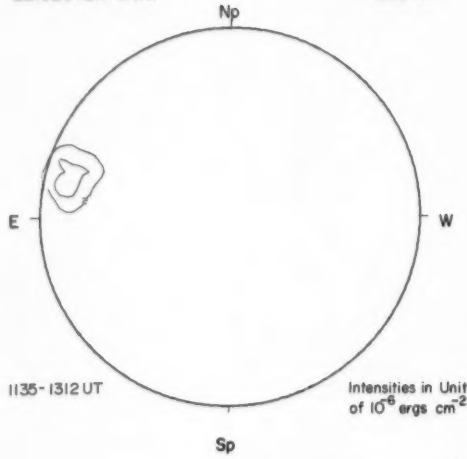
57

Nov 74

NOVEMBER 17, 1974 (P = 20.98, B_o = 2.61, L_o = 159.13)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

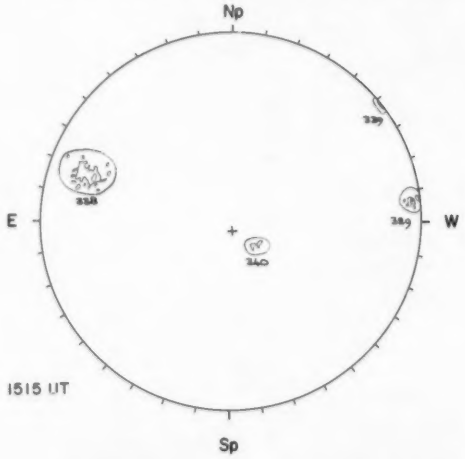


1135-1312 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

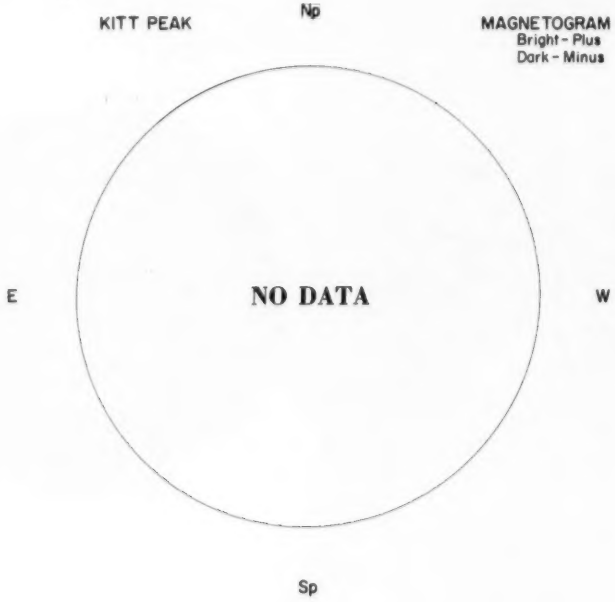


GOOD	S
38 - 3000	3.5
40 - 0300	2.5

1515 UT

KITT PEAK

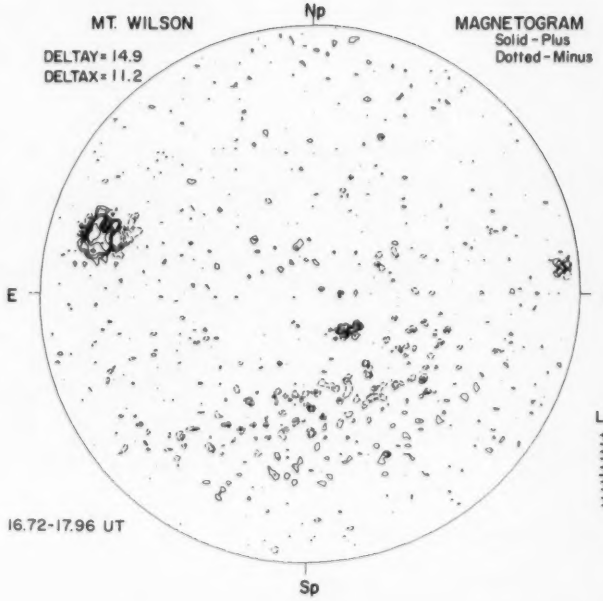
MAGNETOGRAM
Bright - Plus
Dark - Minus



MT. WILSON

DELTAY = 14.9
DELTAX = 11.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus

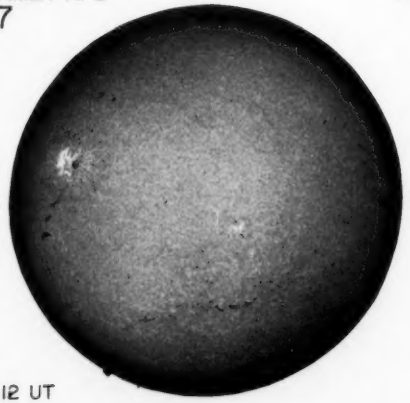


16.72-17.96 UT

RAMEY AFB
17

Np

Hα



E

W

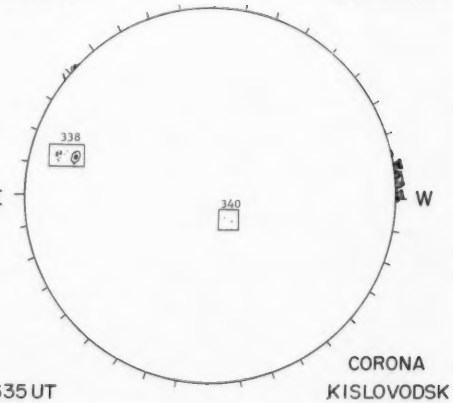
1212 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA
KISLOVODSK

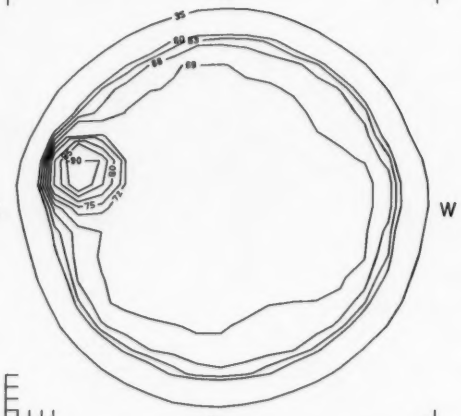
1635 UT

Sp

NELC LA POSTA

2.0 CM

Np



E

W

1857 UT

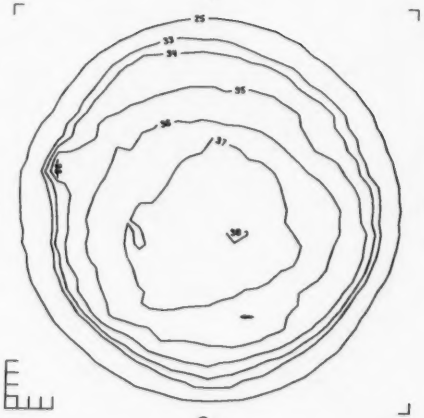
Sp

ANT. TEMP. UNIT 100°K

NELC LA POSTA

8.6 MM

Np



E

W

1727 UT

Sp

ANT. TEMP. UNIT 100°K

59
Nov 74

NOVEMBER 18, 1974 (P = 20.69, B_o = 2.49, L_o = 145.95)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

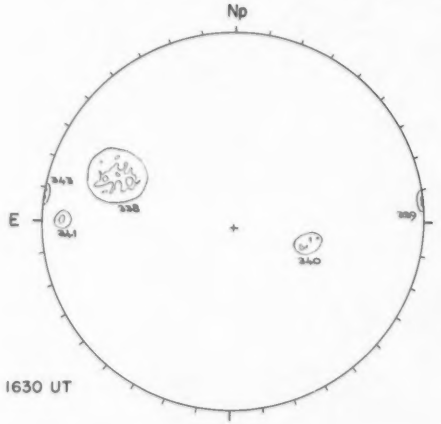
E NO DATA W

Sp

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



FAIR	S
38 - 3000 - 4.0	
40 - 0200 - 2.5	
41 - 0500 - 3.0	

1630 UT

KITT PEAK

Np

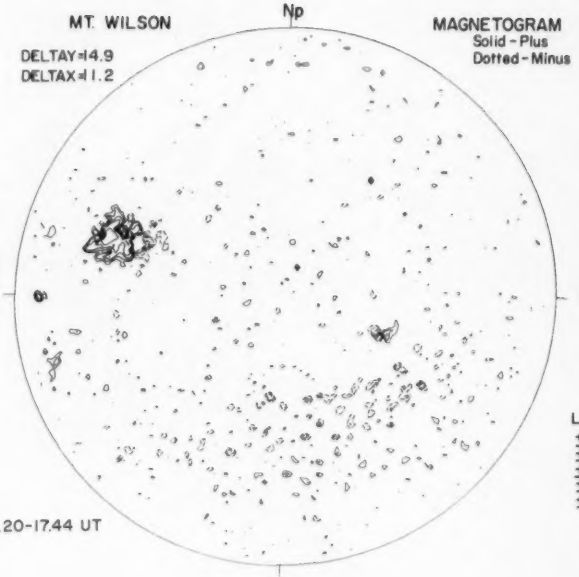
E NO DATA W

Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY=14.9
DELTAX=1.2



MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
±5
±10
±20
±40
±80

16.20-17.44 UT

RAMEY AFB

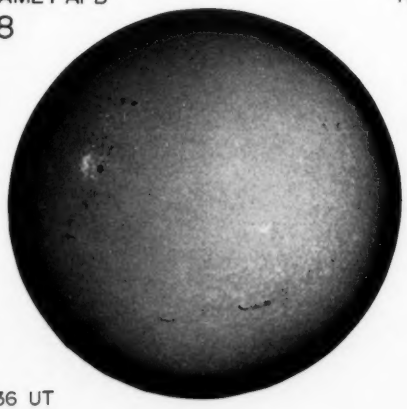
18

Np

Hα

E

W



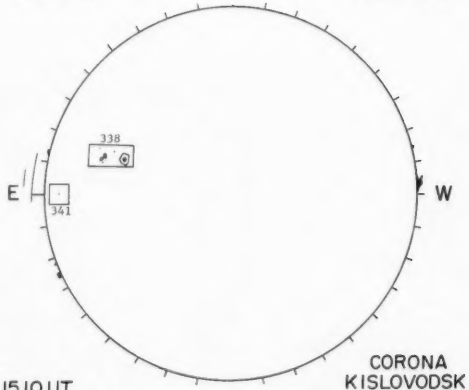
1136 UT

Sp

BOULDER

Np

SUNSPOTS



1510 UT

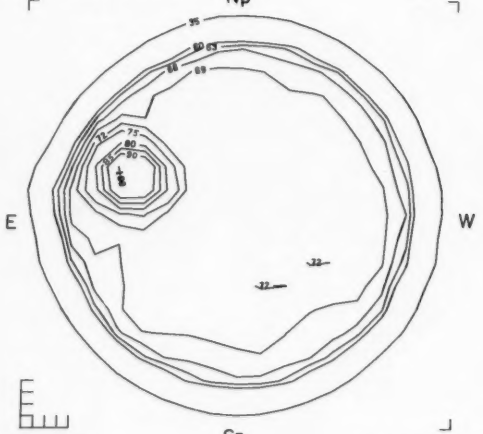
Sp

CORONA
KISLOVODSK
NO DATA 150°-360°

NELC LA POSTA

Np

2.0 CM



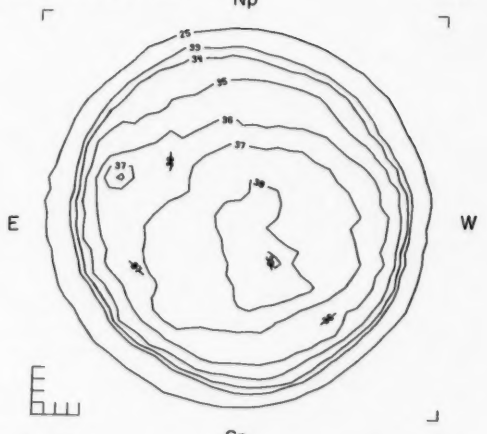
1951 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

Np

8.6 MM



1824 UT

ANT. TEMP. UNIT 100°K

NOVEMBER 19, 1974 (P = 20.39, B_o = 2.37, L_o = 132.76)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E NO DATA W

Sp

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

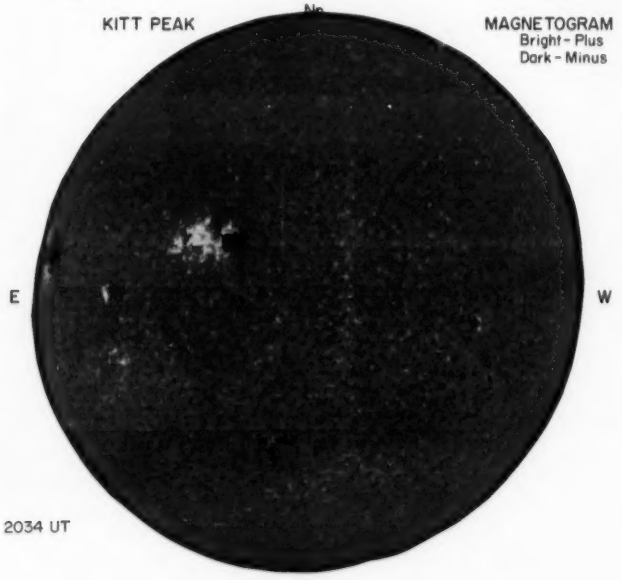
Np

E NO DATA W

Sp

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

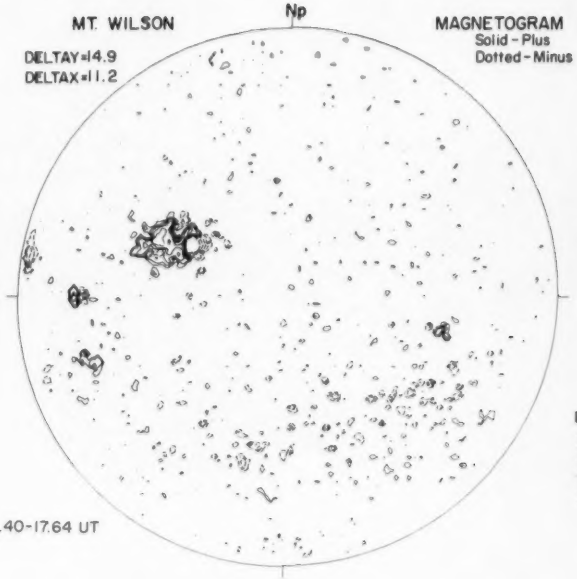


2034 UT

MT. WILSON

DELTAY=14.9
DELTAX=11.2

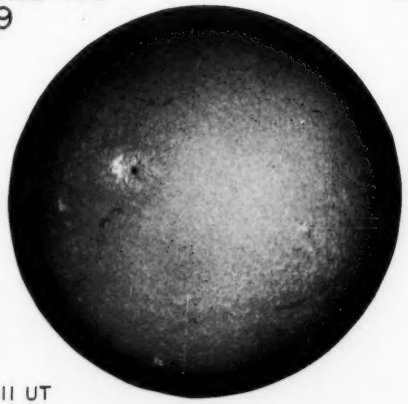
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

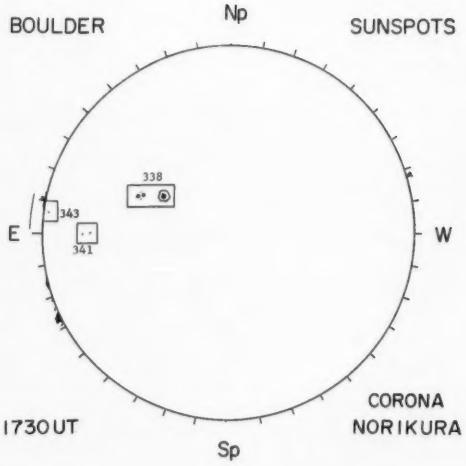
16.40-17.64 UT

RAMEY AFB
19



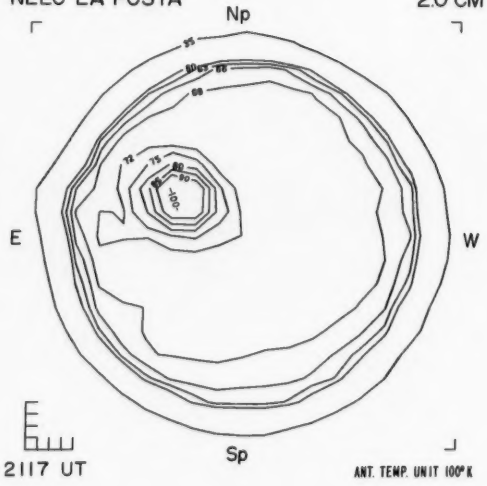
1211 UT

BOULDER



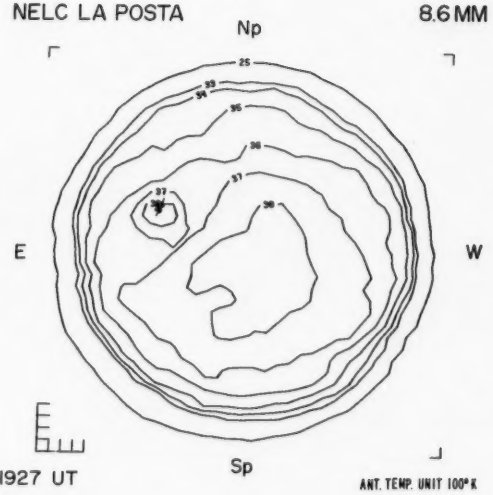
1730 UT

NELC LA POSTA



2117 UT

NELC LA POSTA

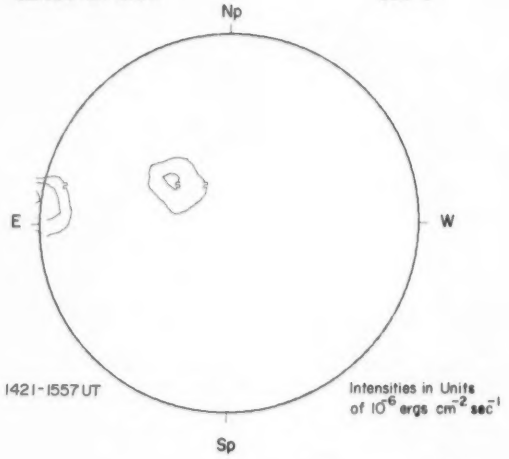


1927 UT

NOVEMBER 20, 1974 (P = 20.08, B_o = 2.25, L_o = 119.58)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

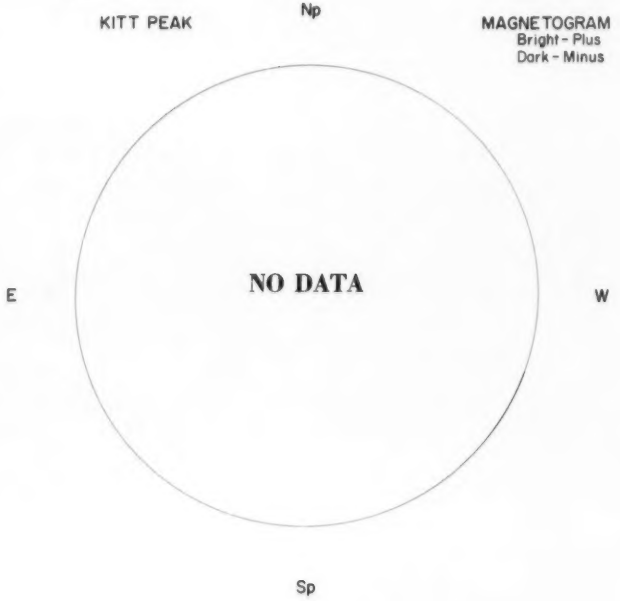


McMATH-HULBERT

CALCIUM REPORT

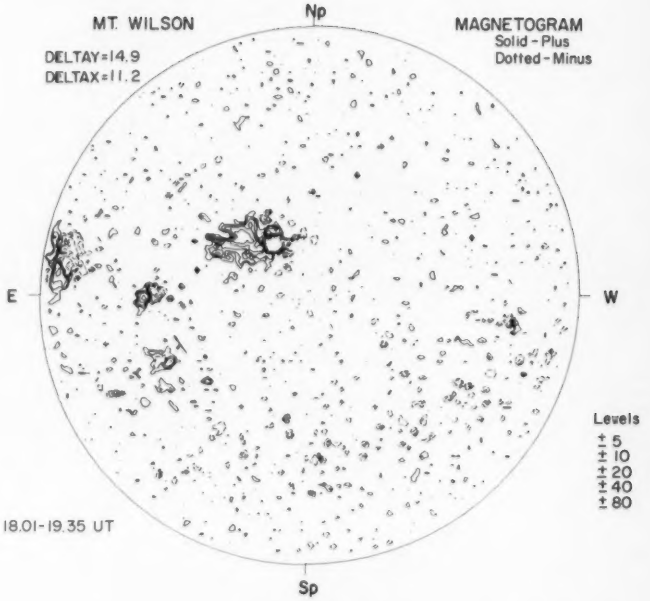
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus



RAMEY AFB

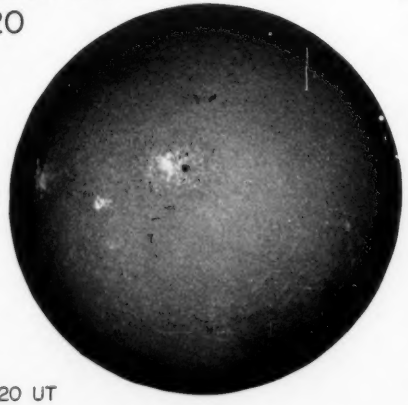
20

Np

Hα

E

W



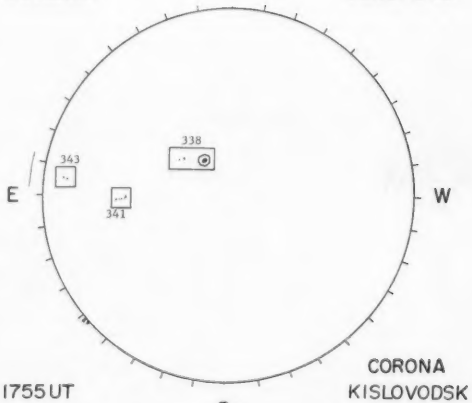
1820 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1755 UT

Sp

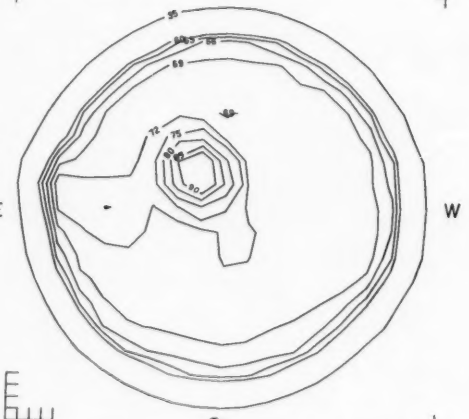
CORONA

KISLOVODSK

NELC LA POSTA

2.0 CM

Np



E

W

Sp

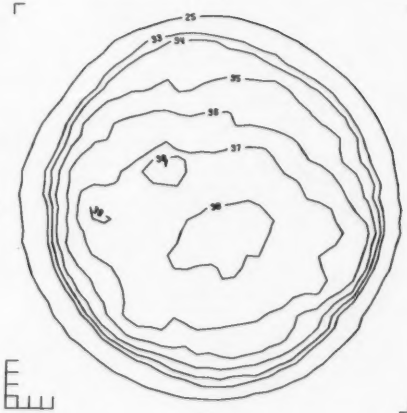
1854 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA

8.6 MM

Np



E

W

Sp

1724 UT

ANT. TEMP. UNIT 100°K

NOVEMBER 21, 1974 (P = 19.77, B_o = 2.13, L_o = 106.40)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

Np

E NO DATA W

Sp

Intensities in Units
of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

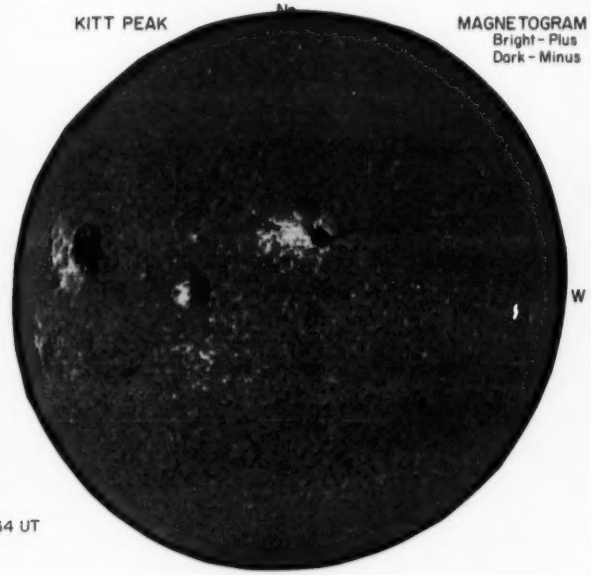
Np

E NO DATA W

Sp

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1834 UT

Sp

MT. WILSON

DELTAY=
DELTAX=

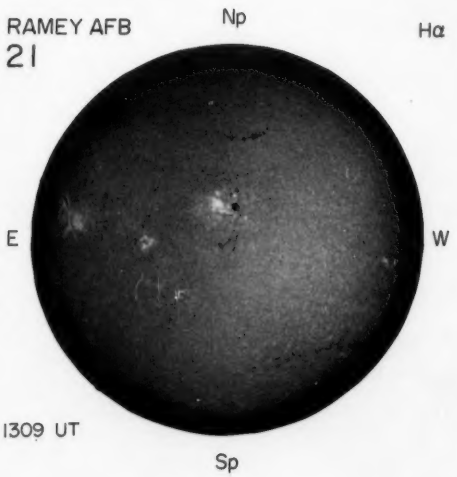
Np

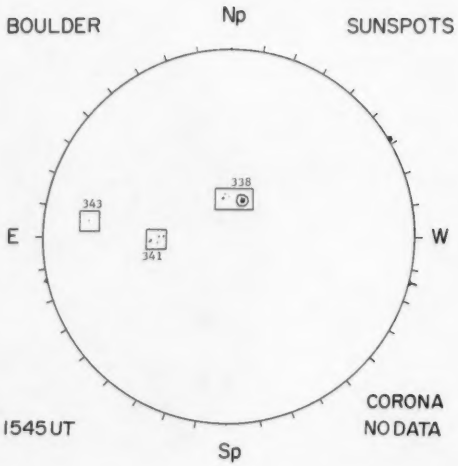
MAGNETOGRAM
Solid - Plus
Dotted - Minus

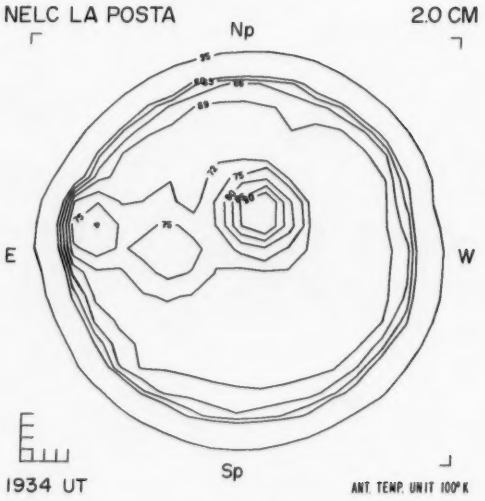
E NO DATA W

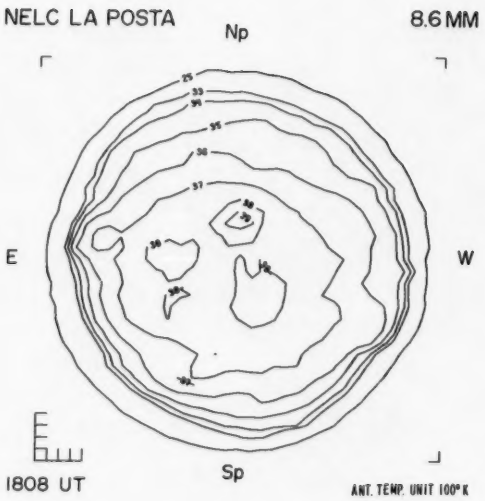
Levels
± 5
± 10
± 20
± 40
± 80

Sp


RAMEY AFB
21
Np
Hα
E
W
Sp
1309 UT


BOULDER
Np
SUNSPOTS
343
338
341
E
W
Sp
1545 UT
CORONA
NO DATA

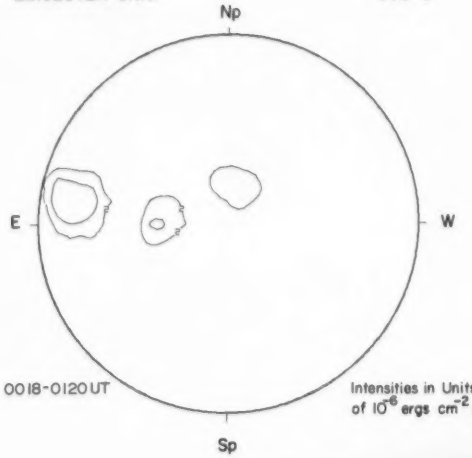

NELC LA POSTA
2.0 CM
Np
E
W
Sp
1934 UT
ANT. TEMP. UNIT 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
1808 UT
ANT. TEMP. UNIT 100°K

NOVEMBER 22, 1974 (P = 19.45, B_o = 2.01, L_o = 93.22)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

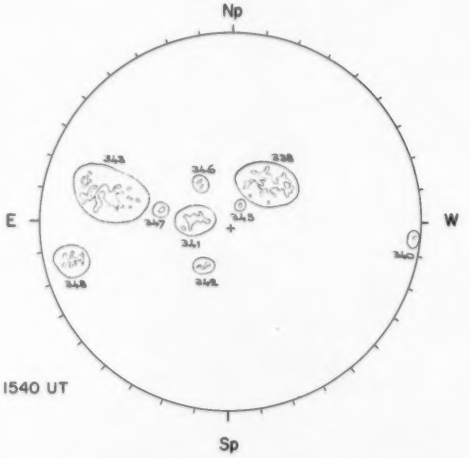


0018-0120 UT

Intensities in Units of 10^6 ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

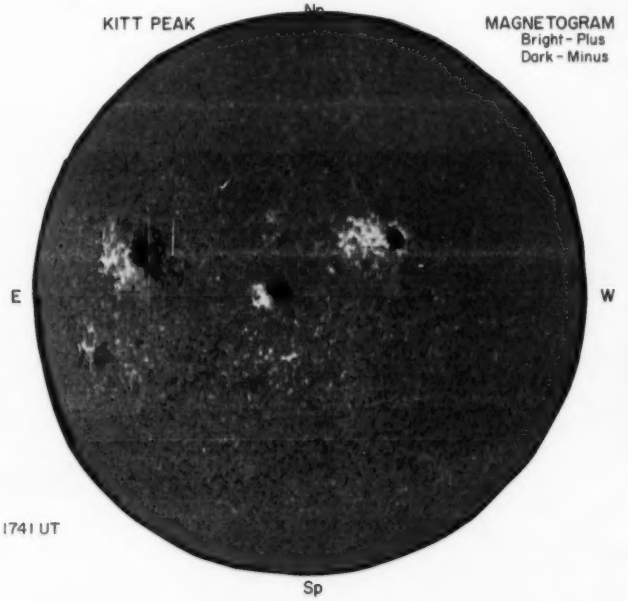


1540 UT

GOOD	S
38 - 2800	- 3.5
41 - 0900	- 3.5
43 - 3200	- 3.0

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

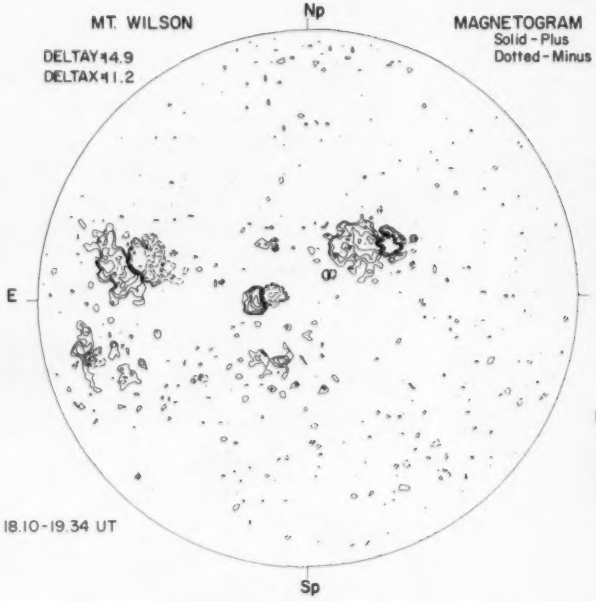


1741 UT

MT. WILSON

DELTAY ≤ 4.9
DELTAX ≤ 1.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus



18.10-19.34 UT

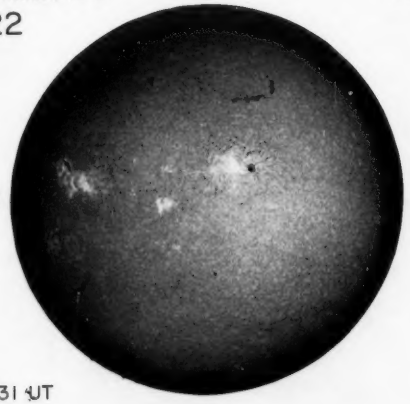
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB

22

Np

Hα



E

W

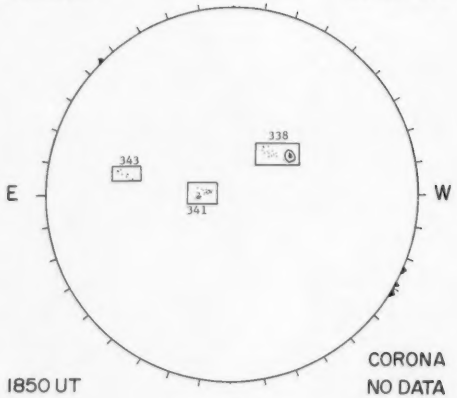
1131 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1850 UT

Sp

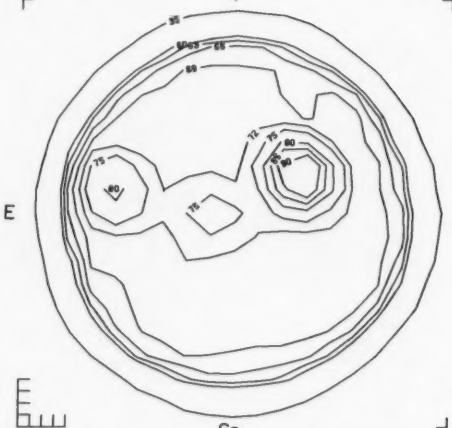
CORONA

NO DATA

NELC LA POSTA

Np

2.0 CM



E

W

2022 UT

Sp

ANT. TEMP. UNIT 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

CLOUDY

E

W

1847 UT

Sp

ANT. TEMP. UNIT 100°K

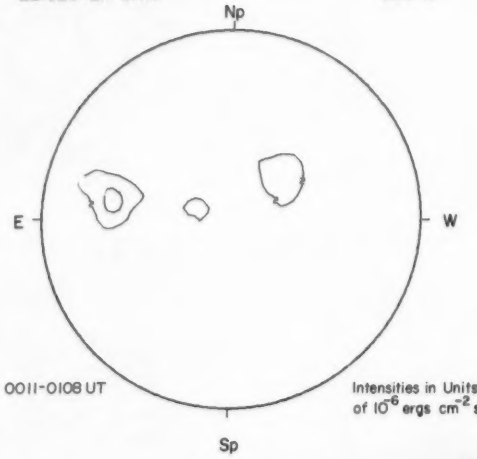
69

Nov 74

NOVEMBER 23, 1974 (P = 19.12, B_o = 1.88, L_o = 80.04)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

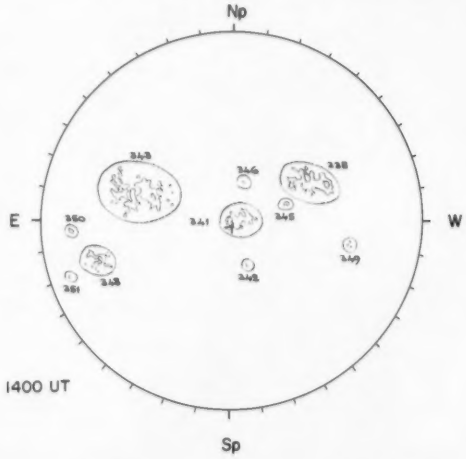


0011-0108 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

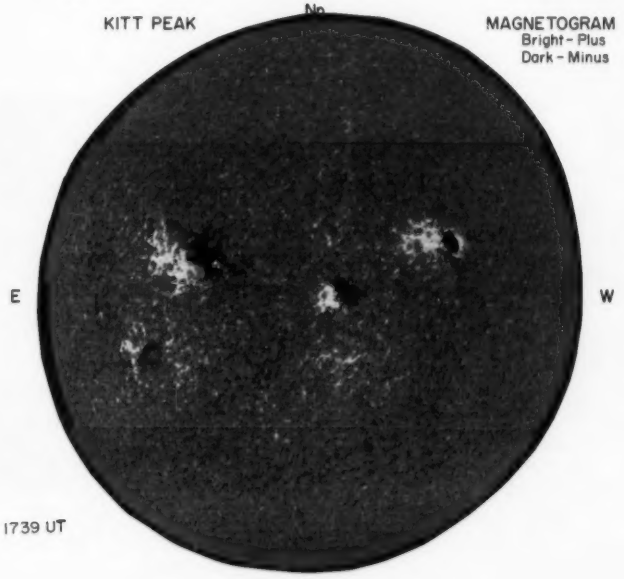


1400 UT

FAIR	M
38 - 2800	- 3.0
41 - 1000	- 3.0
43 - 3600	- 3.0

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

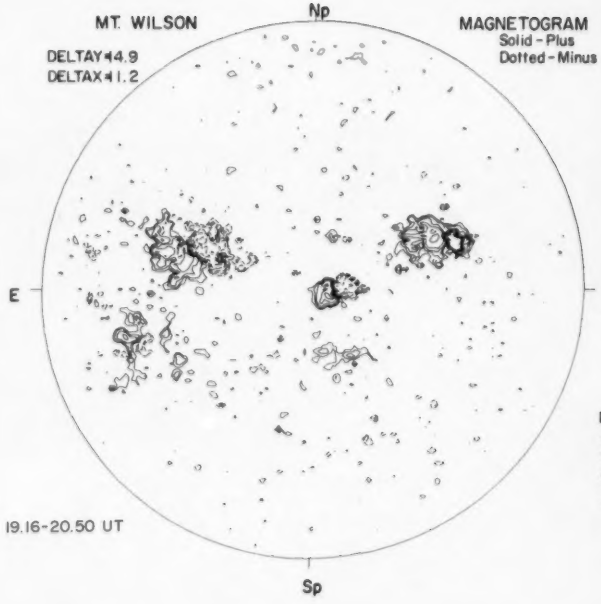


1739 UT

MT. WILSON

DELTAY=4.9
DELTAX=1.2

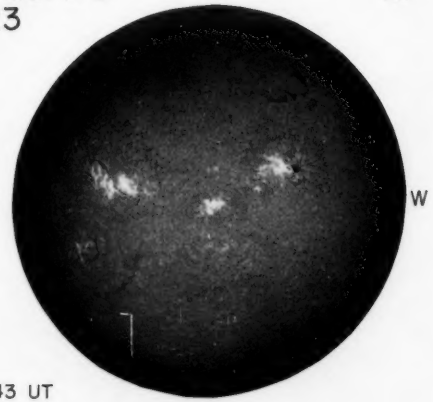
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

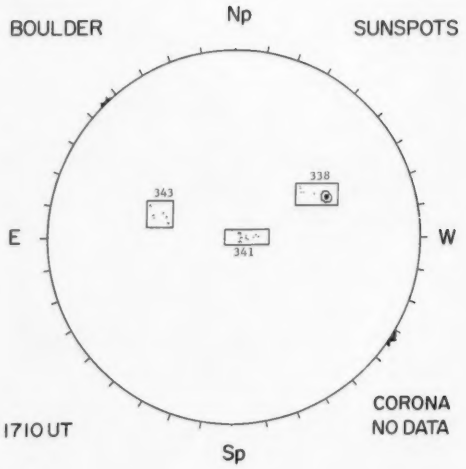
19.16-20.50 UT

RAMEY AFB
23



1143 UT

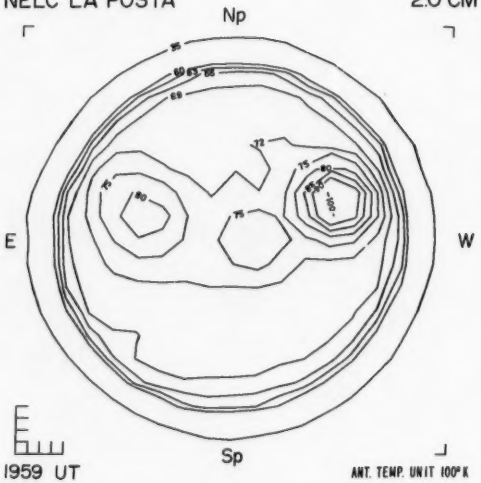
BOULDER



1710 UT

CORONA
NO DATA

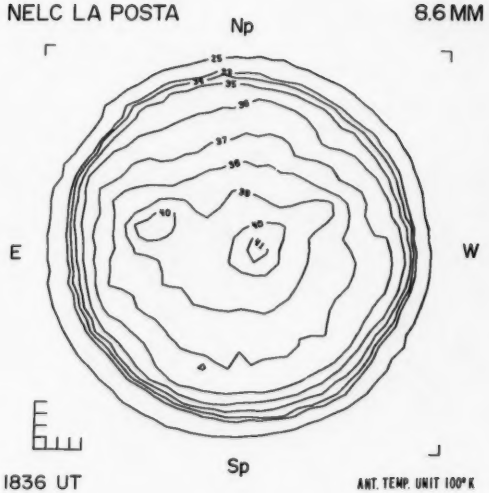
NELC LA POSTA



1959 UT

ANT. TEMP. UNIT 100°K

NELC LA POSTA



1836 UT

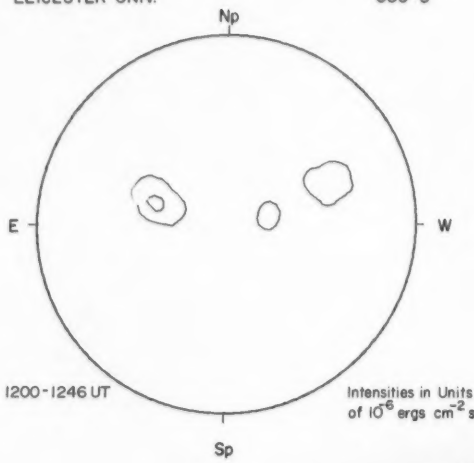
ANT. TEMP. UNIT 100°K

71
Nov 74

NOVEMBER 24, 1974 (P = 18.79, B_o = 1.76, L_o = 66.86)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

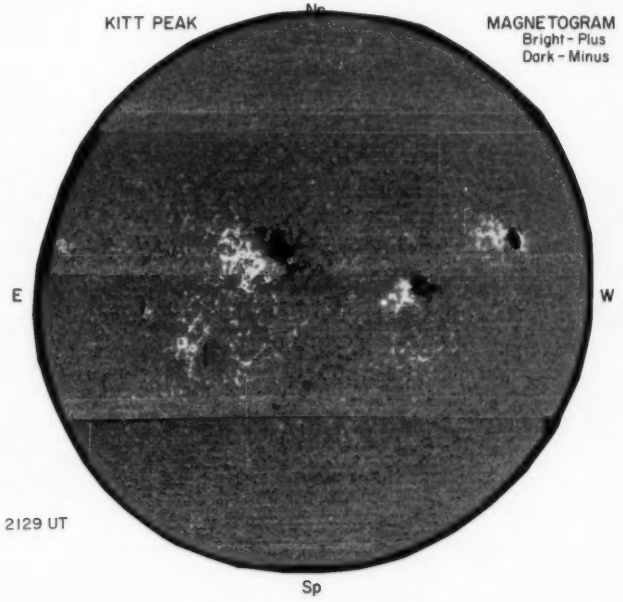


McMATH-HULBERT

CALCIUM REPORT

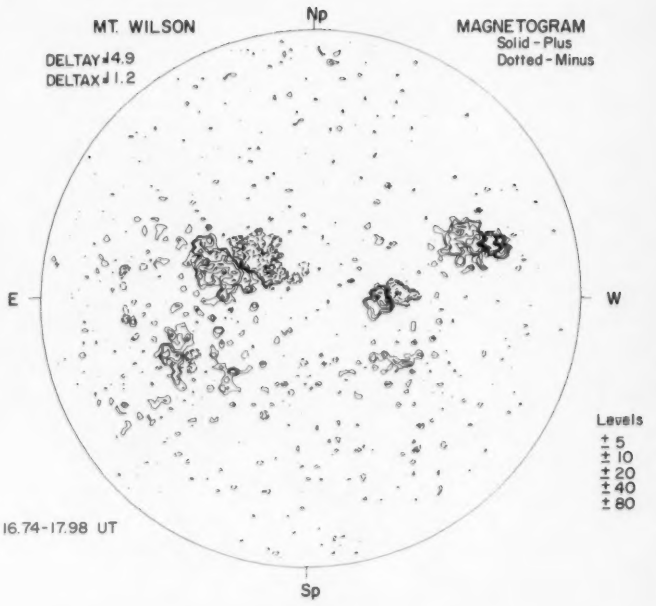
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

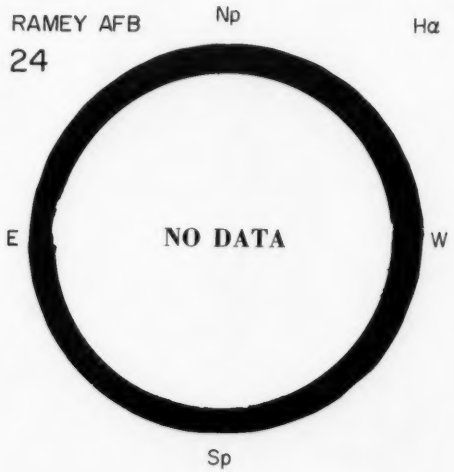


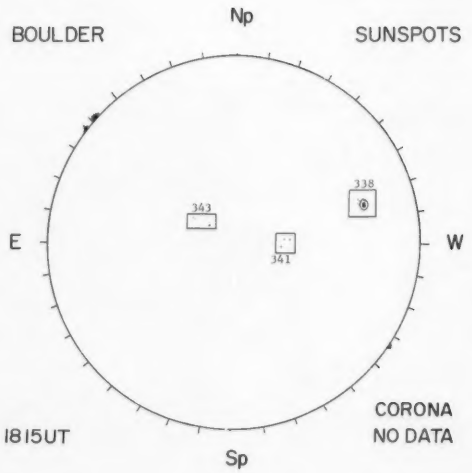
MT. WILSON

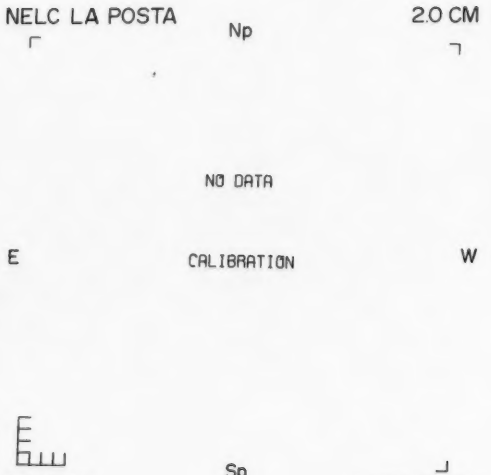
MAGNETOGRAM
Solid - Plus
Dotted - Minus



RAMEY AFB
24





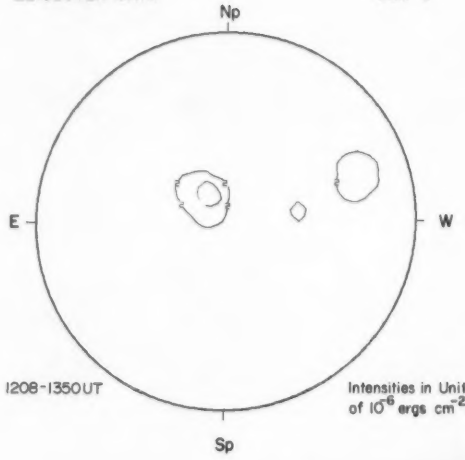


73
Nov 74

NOVEMBER 25, 1974 (P = 18.45, B_o = 1.64, L_o = 53.68)

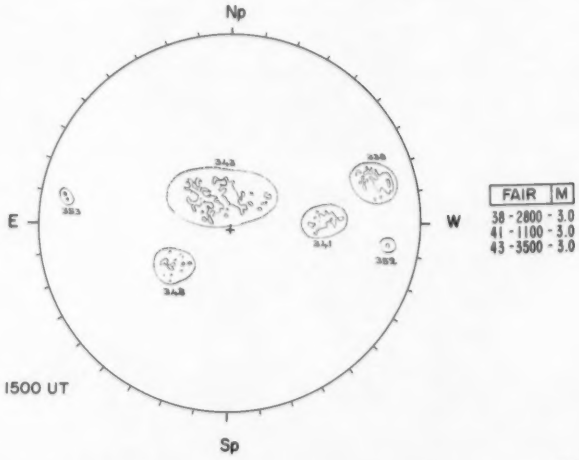
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



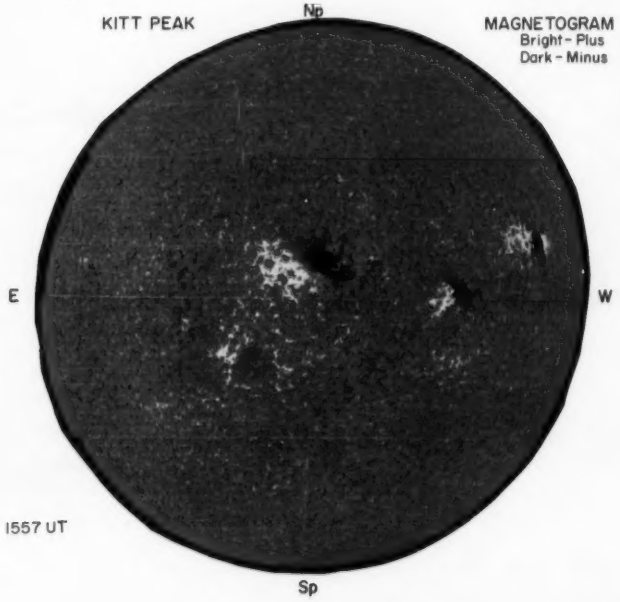
McMATH-HULBERT

CALCIUM REPORT



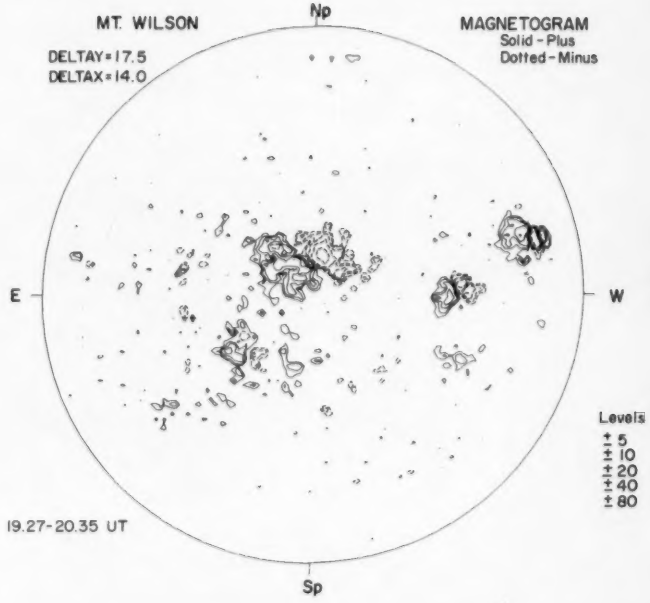
KITT PEAK

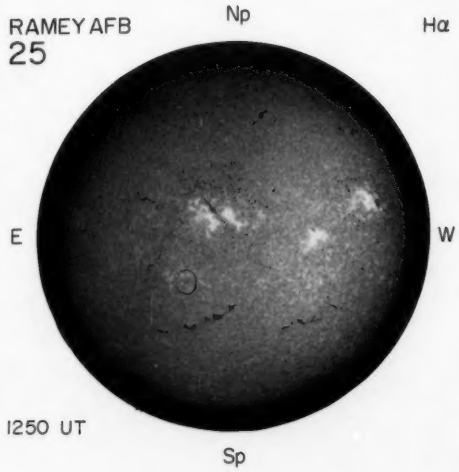
MAGNETOGRAM
Bright - Plus
Dark - Minus

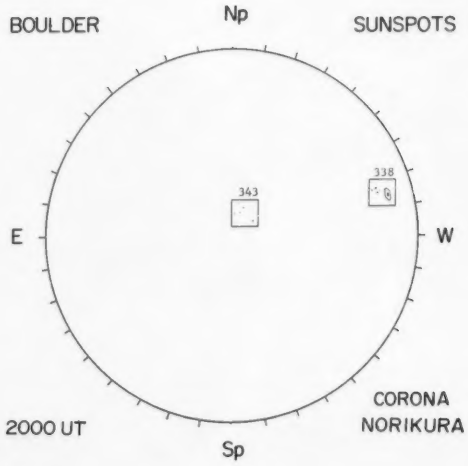


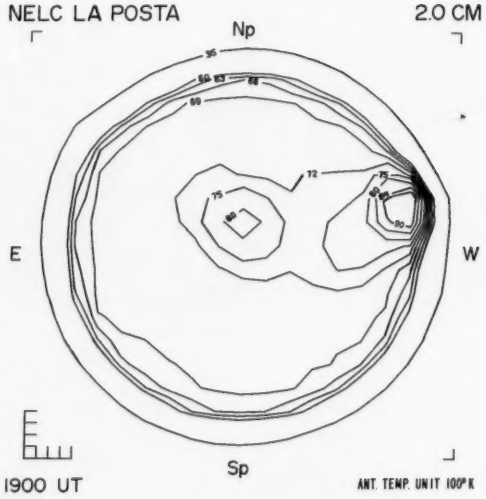
MT. WILSON

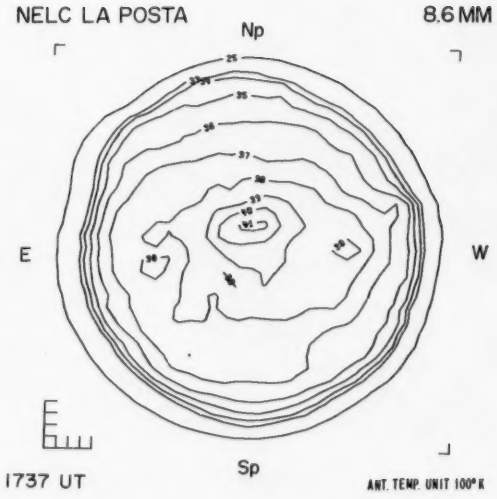
MAGNETOGRAM
Solid - Plus
Dotted - Minus




RAMEY AFB
25
Np
Hα
E
W
1250 UT
Sp


BOULDER
Np
SUNSPOTS
343
338
E
W
2000 UT
Sp
CORONA
NORIKURA


NELC LA POSTA
2.0 CM
Np
E
W
1900 UT
Sp
ANT. TEMP. UNIT 100°K

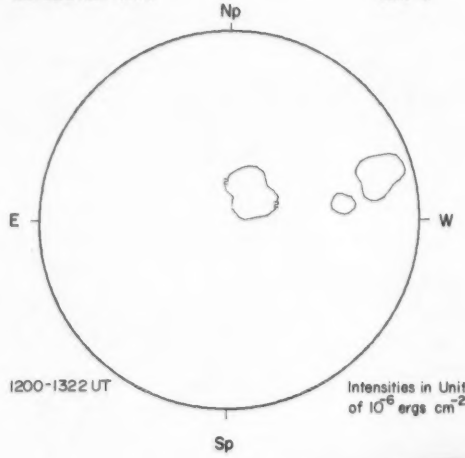

NELC LA POSTA
8.6 MM
Np
E
W
1737 UT
Sp
ANT. TEMP. UNIT 100°K

75
Nov 74

NOVEMBER 26, 1974 (P = 18.10, B_o = 1.51, L_o = 40.50)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

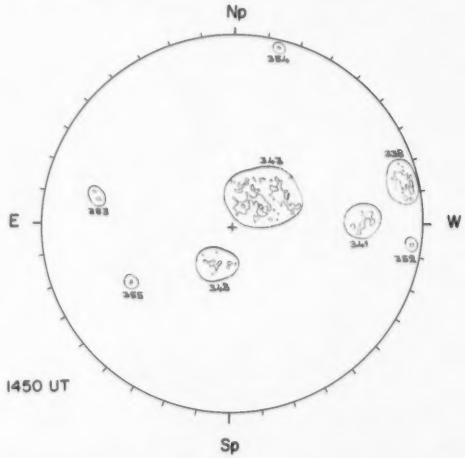


1200-1322 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

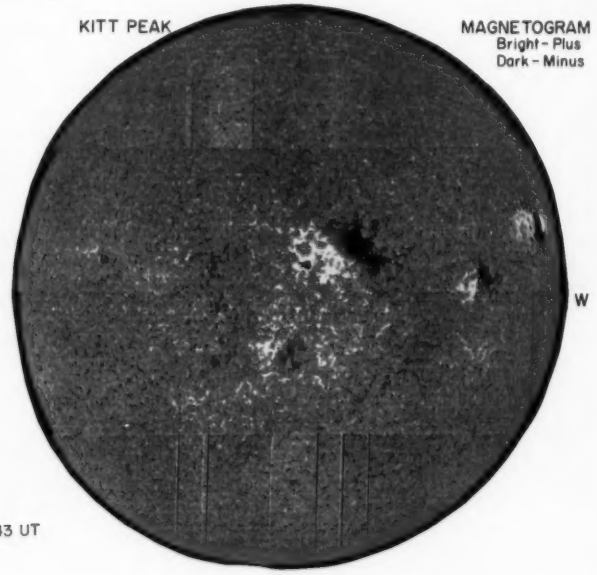


FAIR	M
38 - 2400	- 3.0
41 - 0800	- 2.5
43 - 3600	- 3.5

1450 UT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

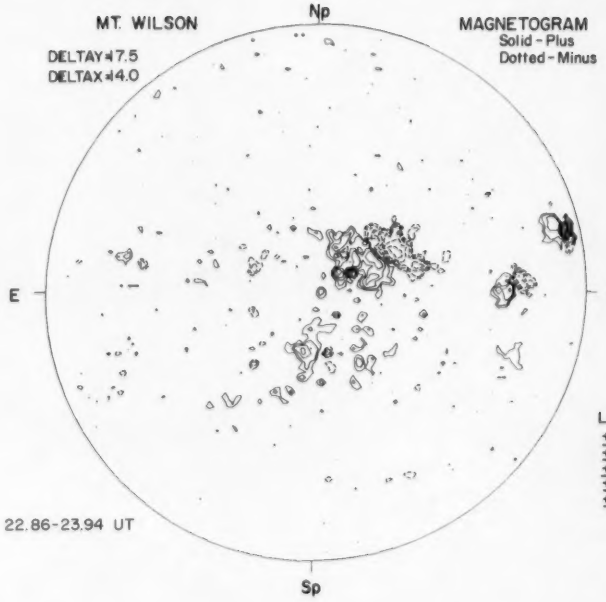


1543 UT

MT. WILSON

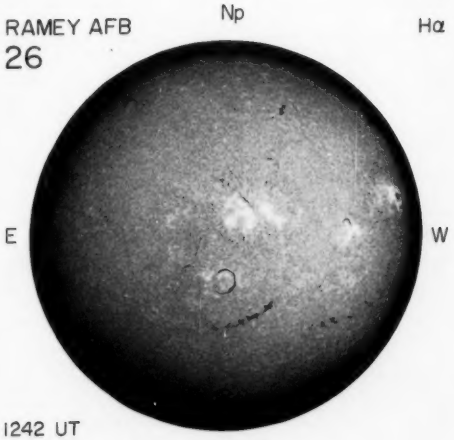
DELTAY=17.5
DELTAX=14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus



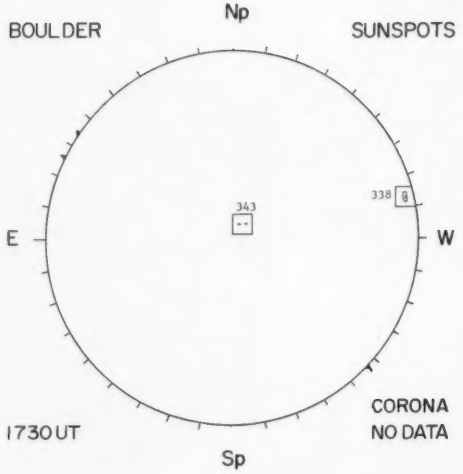
22.86-23.94 UT

RAMEY AFB
26



1242 UT

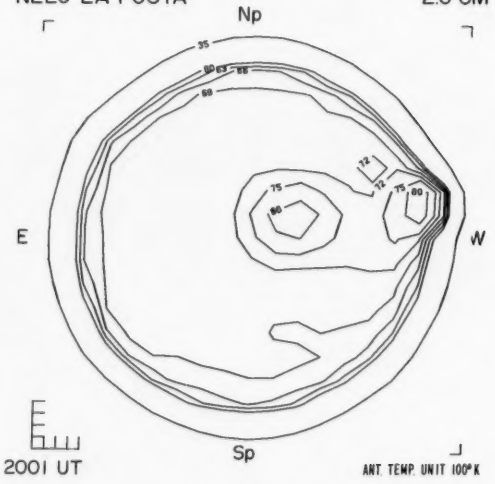
BOULDER



1730 UT

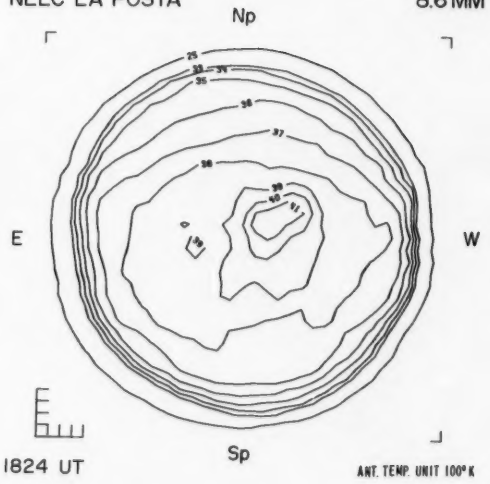
CORONA
NO DATA

NELC LA POSTA



2001 UT

NELC LA POSTA



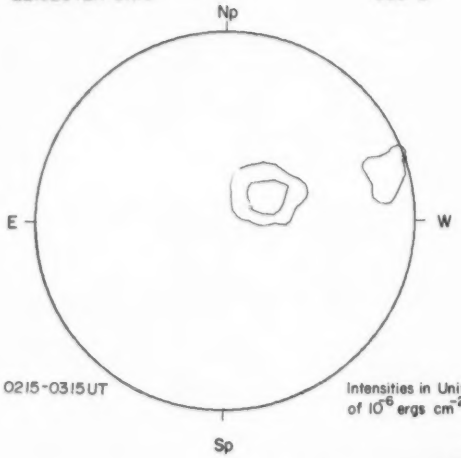
1824 UT

77
Nov 74

NOVEMBER 27, 1974 (P = 17.75, B_o = 1.39, L_o = 27.32)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



0215-0315 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

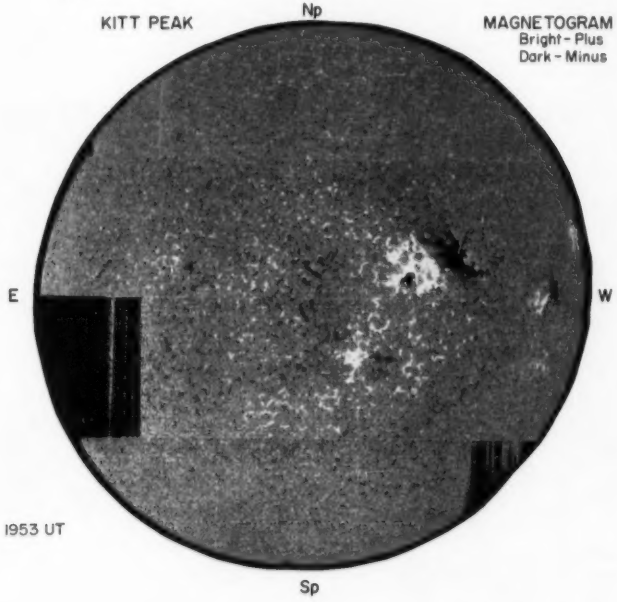
CALCIUM REPORT

POOR	M
38 - 2400 - 2.5	
43 - 3500 - 3.0	

1400 UT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

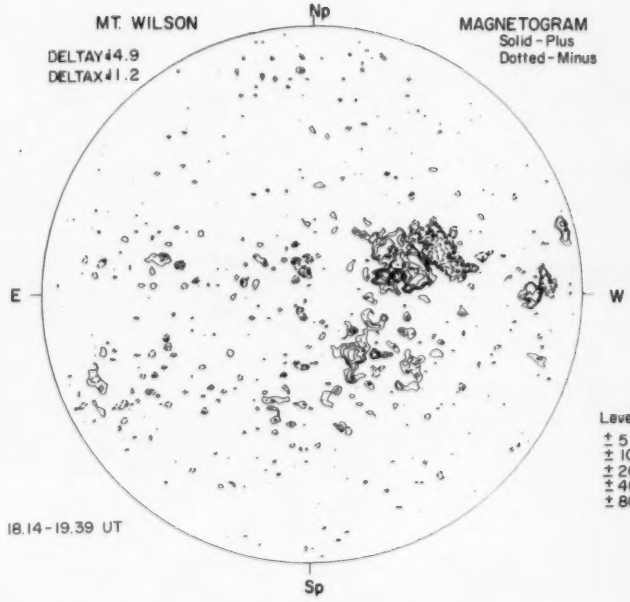


1953 UT

MT. WILSON

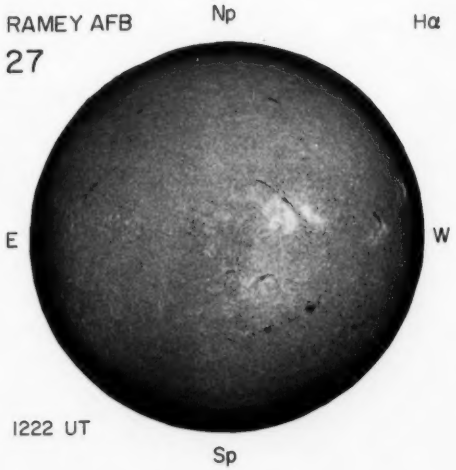
DELTAY 4.9
DELTAX 1.2

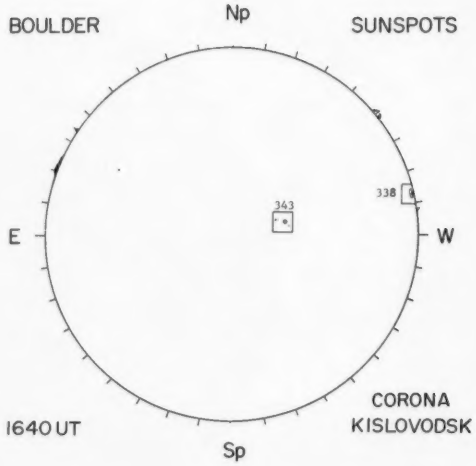
MAGNETOGRAM
Solid - Plus
Dotted - Minus

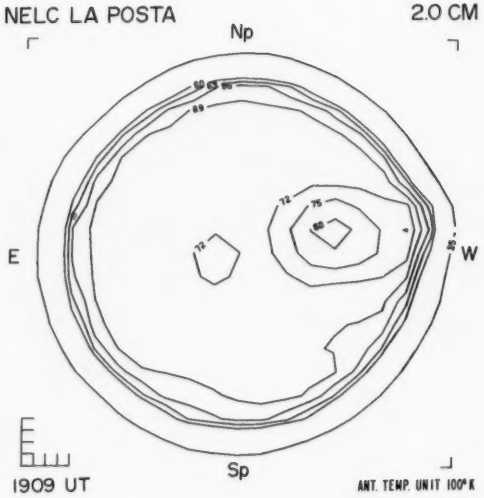


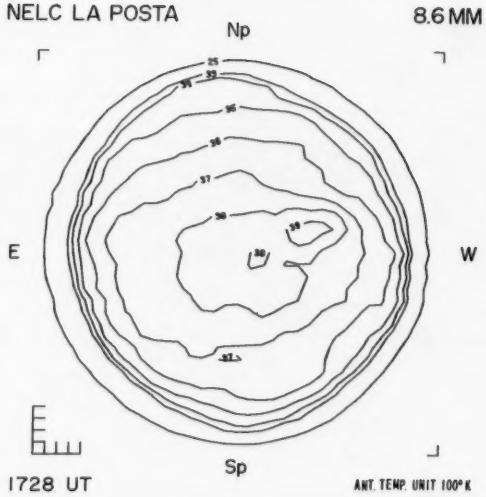
Levels
± 5
± 10
± 20
± 40
± 80

18.14 - 19.39 UT


RAMEY AFB
Np
Hα
27
E
W
1222 UT
Sp


BOULDER
Np
SUNSPOTS
343
338
E
W
1640 UT
Sp
CORONA
KISLOVODSK

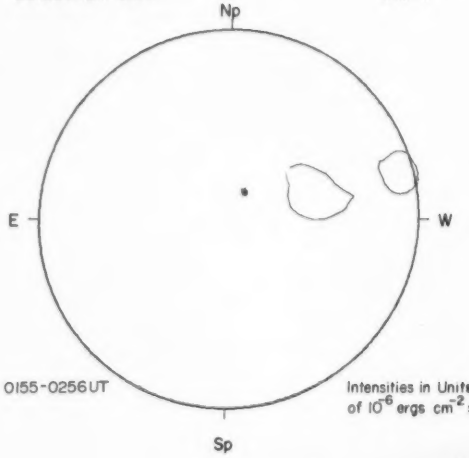

NELC LA POSTA
2.0 CM
Np
E
W
Sp
1909 UT
ANT. TEMP. UNIT 100°K


NELC LA POSTA
8.6 MM
Np
E
W
Sp
1728 UT
ANT. TEMP. UNIT 100°K

NOVEMBER 28, 1974 (P = 17.38, B_o = 1.26, L_o = 14.14)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

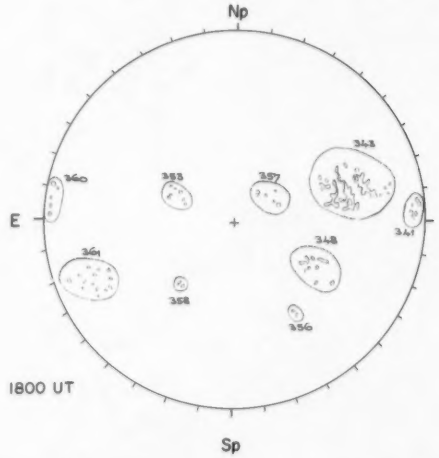


0155-0256 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

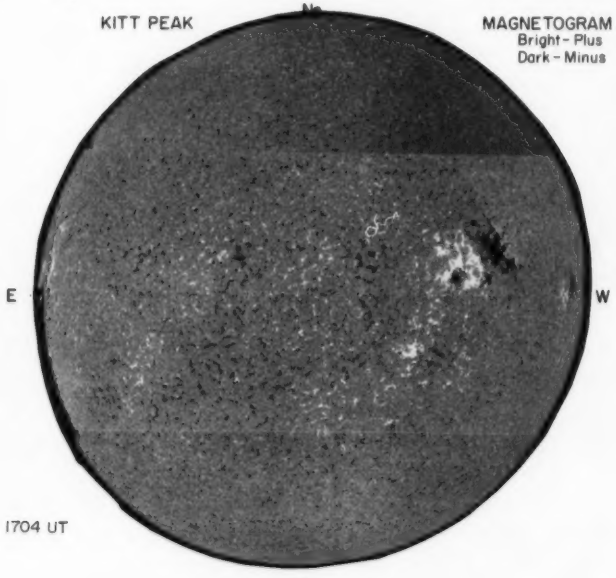


1800 UT

FAIR | S
43 - 3500 - 3.0

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

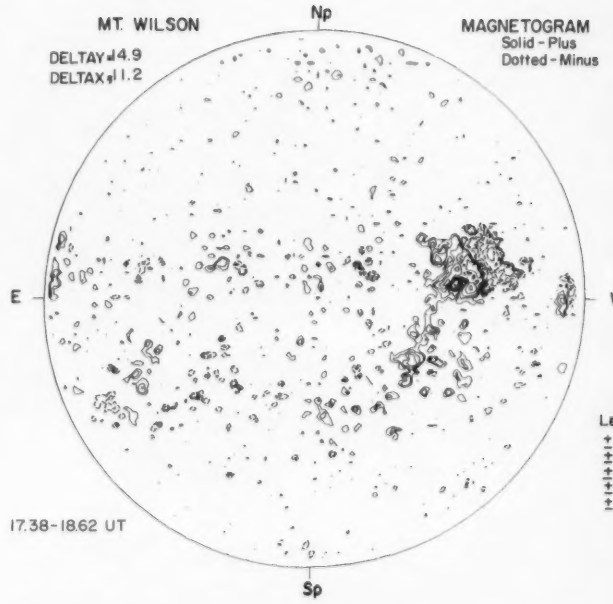


1704 UT

MT. WILSON

DELTAY = 4.9
DELTAX = 1.2

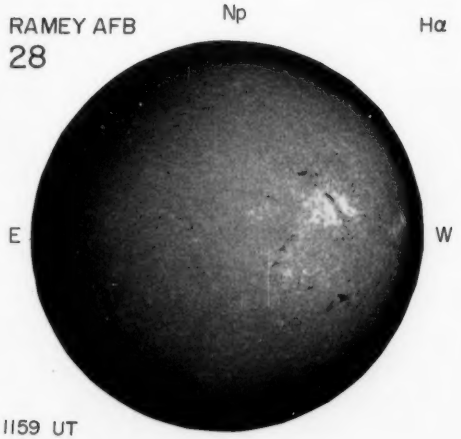
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

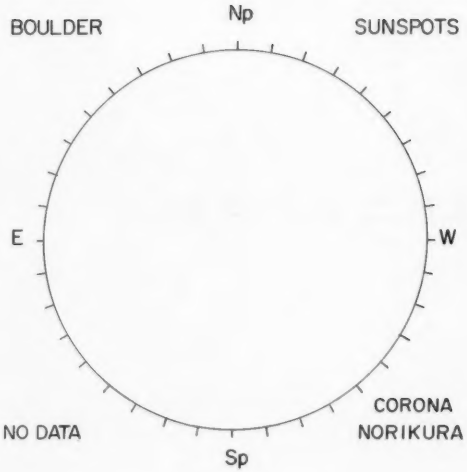
17.38-18.62 UT

RAMEY AFB
28



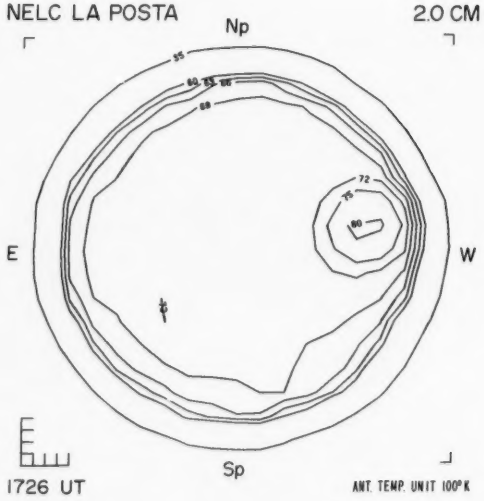
1159 UT

BOULDER



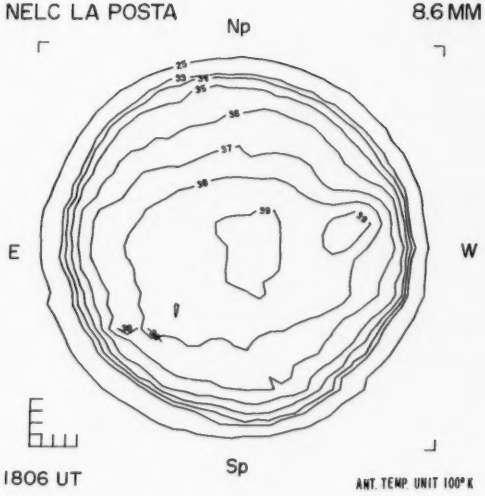
NO DATA

NELC LA POSTA



1726 UT

NELC LA POSTA



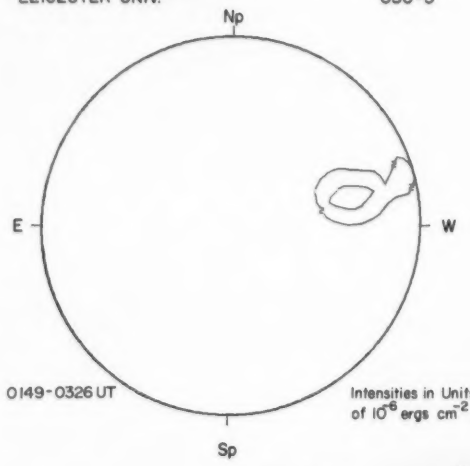
1806 UT

81
Nov 74

NOVEMBER 29, 1974 (P = 17.02, B_o = 1.14, L_o = 0.96)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

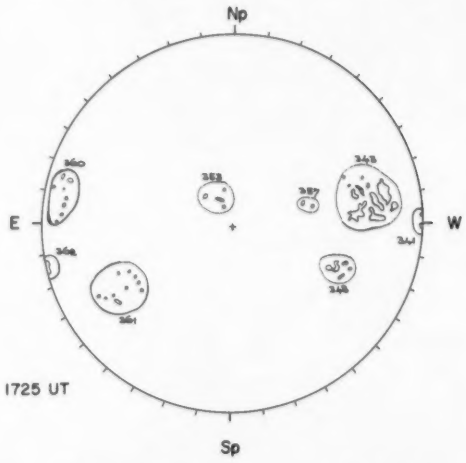


0149-0326 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

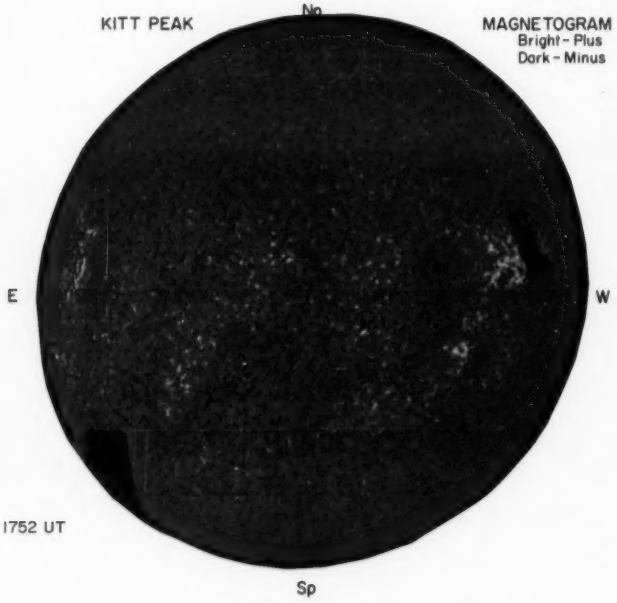


1725 UT

GOOD	S
43 - 3500 - 3.0	
62 - 0800 - 2.5	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

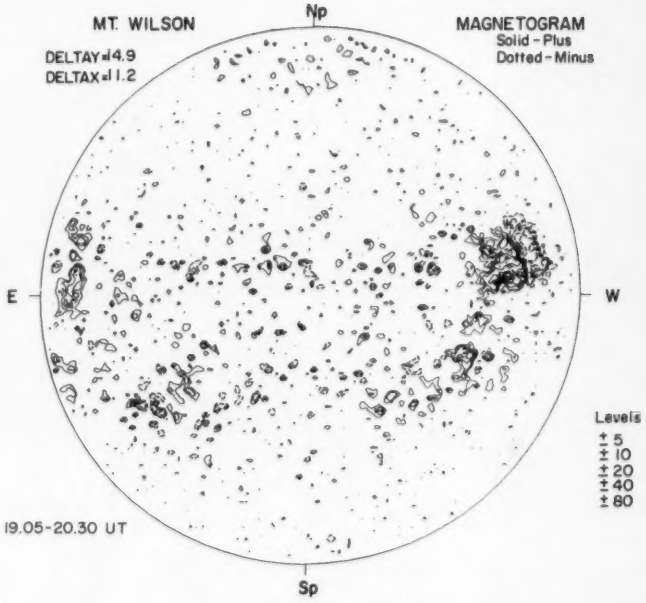


1752 UT

MT. WILSON

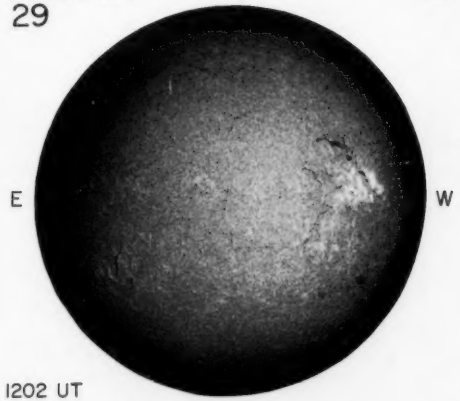
DELTAY = 4.9
DELTAX = 1.2

MAGNETOGRAM
Solid - Plus
Dotted - Minus



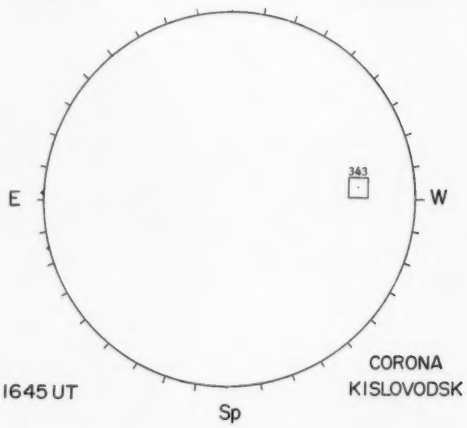
19.05-20.30 UT

RAMEY AFB
29



1202 UT

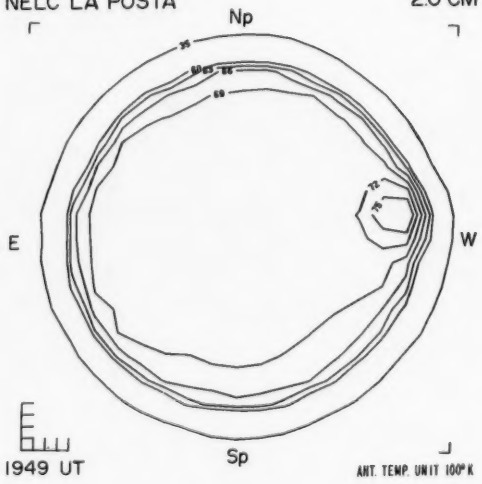
BOULDER



1645 UT

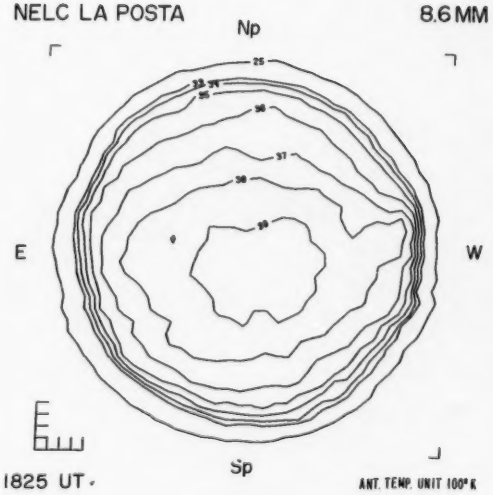
CORONA
KISLOVODSK

NELC LA POSTA



1949 UT

NELC LA POSTA



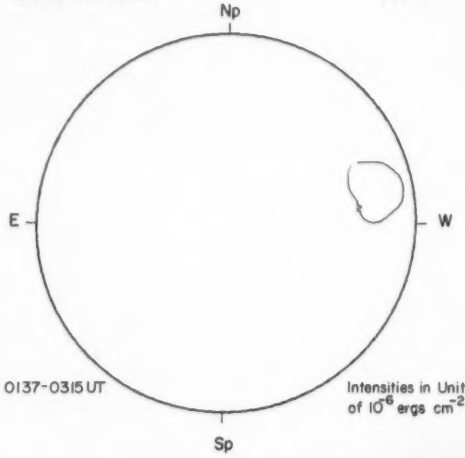
1825 UT

83
Nov 74

NOVEMBER 30, 1974 (P = 16.64, B_o = 1.01, L_o = 347.78)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

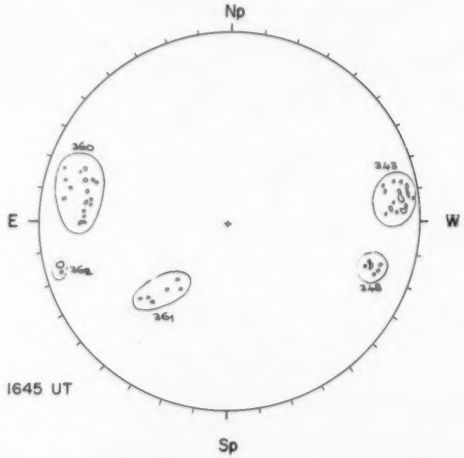


0137-0315 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

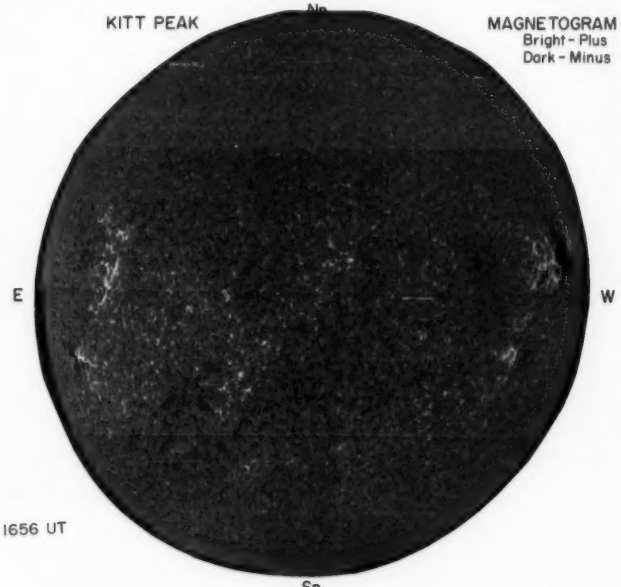
CALCIUM REPORT



BAD	S
43 - 2800 - 3.0	
62 - 0700 - 3.0	

1645 UT

KITT PEAK

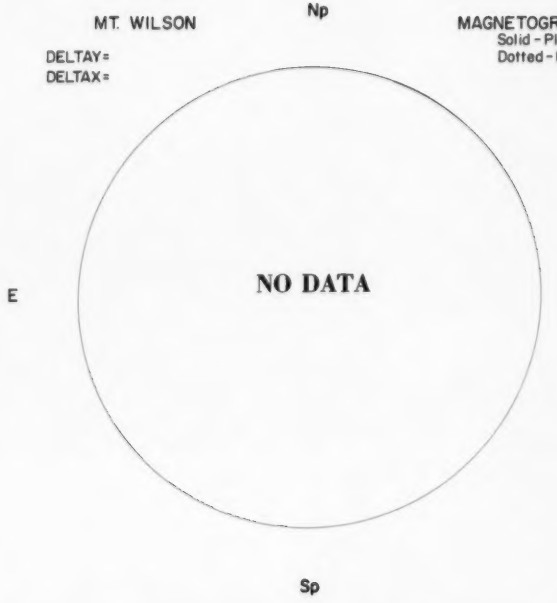


1656 UT

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY=
DELTAX=

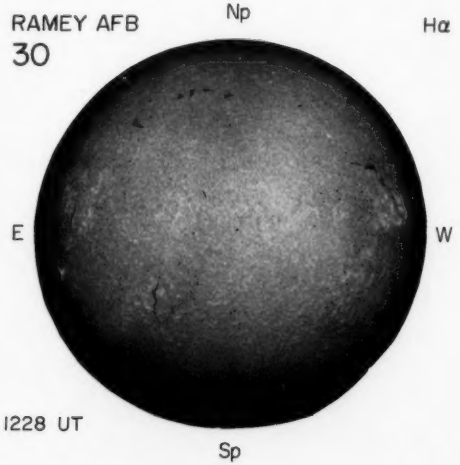


MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

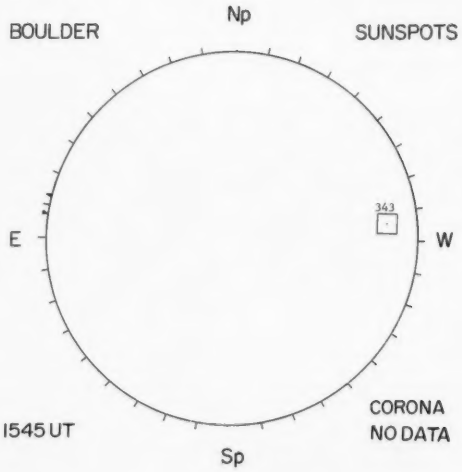
RAMEY AFB

30



1228 UT

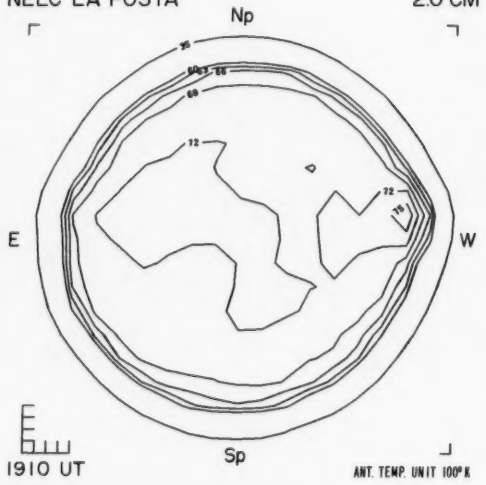
BOULDER



1545 UT

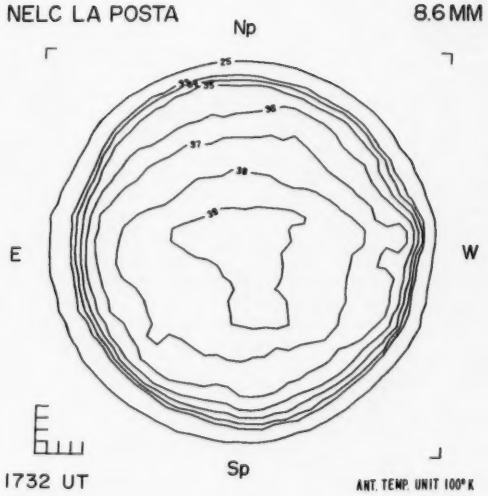
CORONA
NO DATA

NELC LA POSTA



1910 UT

NELC LA POSTA



1732 UT

85
Nov 74

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NOVEMBER 1974

MCMATH REGION 13322 CMP DATE 1.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	31	13322	N15 E03	10	100	2.0									
74	11	1	13322	N15 W09	11	100	2.5									

MCMATH REGION 13315 CMP DATE 1.7

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	26	13315	N07 E85	356	1200	2.5		N05 E80				B	10	1	AXX
74	10	27	13315	N07 E72	357	2200	3.5	19501	N04 E65	2	(BP	3	B	0	2	AXX
74	10	28	13315	N07 E55	0	1800	3.0									
74	10	29						19501	N04 E50	351	AP					
74	10	30	13315	N07 E26	1	1100	2.5									
74	10	31	13315	N07 E13	0	1000	2.5									
74	11	1	13315	N07 E01	1	900	2.5									
74	11	2	13315	N07 W03	352	800	2.5	19501	N08 W12	0	(AP)	1				
74	11	7	13315	N07 W80	3	580	1.0									

MCMATH REGION 13323 CMP DATE 3.0

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	31	13323	S04 E30	344	100	1.5									

MCMATH REGION 13325 CMP DATE 3.4

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	2	13325	N08 E11	338	200	1.5									

MCMATH REGION 13326 CMP DATE 4.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	7	13326	N22 W46	329	100	2.0									

MCMATH REGION 13318 CMP DATE 4.9 RETURN OF REGION 13278 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	29						19502	S20 E82	319	AP					
74	10	30	13318	S20 E73	315	900	2.5	19502	S20 E69	320	(AP)	2	B	30	1	HRX
74	10	31	13318	S18 E58	316	1000	2.5	19502	S19 E56	319	(AP)	2				
74	11	1	13318	S19 E46	317	1300	3.0									
74	11	2	13318	S20 E33	316	1200	2.5									
74	11	7	13318	S20 W35	318	1500	2.5									
74	11	8	13318	S20 W48	318	1300	2.0									
74	11	9	13318	S20 W60	317	1000	1.5									

MCMATH REGION 13331 CMP DATE 5.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	7	13331	S03 W33	316	100	1.5									

MCMATH REGION 13319 CMP DATE 5.3 RETURN OF REGION 13279* ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	30	13319	N07 E75	313	300	1.0									

(Cont'd)

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(Cont'd)

74	10	31	13319	N07 E59	315	200	1.0
74	11	1	13319	N07 E47	316	200	1.0
74	11	2	13319	N07 E34	315	200	1.0
74	11	7	13319	N07 W30	313	400	1.0

MCMATH REGION 13327 CMP DATE 6.5 RETURN OF REGION 13281* ROTATION 2

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	7	13327	S13 W14	297	200	1.5									
74	11	8	13327	S13 W27	297	100	1.0									
74	11	9	13327	S13 W41	298	100	1.0									

MCMATH REGION 13324 CMP DATE 7.6 RETURN OF REGION 13280 ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	10	31	13324	N11 E87	287	1000	2.0									
74	11	1	13324	N09 E79	284	4000	2.5		N12 E76				B	80	2	HAX
74	11	2	13324	N09 E67	282	4200	3.0	19503	N13 E62	286	(AP)	3	H	140	2	HKX
74	11							19504	N11 E70	278	(AP)	1				
74	11							19505	N09 E70	278	(BP	2	H	30	4	BXO
74	11	3						19503	N11 E49	286	(BP)	4	R	150	12	DAO
74	11							19506	N14 E49	286	(BP)	2				
74	11							19505	N08 E56	279	(BP	2	R	10	2	BXO
74	11							19504	N11 E57	278	AP					
74	11	4						19503	N11 E34	286	(BP)	3	B	50	16	CAI
74	11							19506	N14 E34	286	(B)	2	B	20	7	BXI
74	11							19505	N08 E42	278	BP		B	0	1	AXX
74	11	5						19503	N10 E23	286	(BP)	3	B	20	17	CAI
74	11							19506	N12 E24	285	(BP)	2	B	10	2	BXO
74	11	6						19503	N12 E06	285	(A)	2	B	10	26	BXI
74	11							19506	N14 E08	283	AP		B	0	2	AXX
74	11							19505	N08 E14	277	BP					
74	11	7	13324	N09 E00	283	4000	3.5	19503	N11 W04	286	(BP)	3	B	10	7	BXO
74	11							19506	N13 W02	284	A					
74	11	8	13324	N09 W13	283	3800	3.5	19503	N10 W16	284	(BP	2	R	10	4	BXO
74	11							19506	N13 W15	283	X					
74	11	9	13324	N09 W26	283	3900	3.0	19508	N03 W32	286	BF)	2	H	20	5	BXO
74	11							19503	N10 W31	285	AP		H	10	3	AXX
74	11	12	13324	N09 W66	283	3400	2.5									
74	11	13	13324	N09 W80	283	2800	2.0									
74	11	14	13324	N09 W90	280	500	1.0									

MCMATH REGION 13328 CMP DATE 8.4 RETURN OF REGION 13282 ROTATION 4 & 5

CALCIUM PLAGE DATA							SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	7	13328	S15 E11	272	700	1.5									
74	11	8	13328	S15 W02	272	700	1.5									
74	11	9	13328	S15 W15	272	700	1.0									
74	11	12	13328	S15 W55	272	600	1.0									
74	11	13	13328	S15 W67	270	400	1.0									

MCMATH REGION 13332 CMP DATE 9.1

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	9	13332	S50 W06	263	100	1.0									

MCMATH REGION 13333 CMP DATE 9.9

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	11	12	13333	N04 W35	252	100	2.5									
74	11	13	13333	N04 W49	252	100	1.5									

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

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MCMATH REGION 13339 CMP DATE 10.8

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	16	13339	N38 W76	240	400	2.5
74	11	17	13339	N38 W89	239	400	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19513	N37 W77	240	BP					

MCMATH REGION 13329 CMP DATE 12.1 RETURN OF REGION 13292 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	7	13329	N08 E60	223	600	3.0
74	11	8	13329	N08 E47	223	700	2.0
74	11	9	13329	N08 E34	223	900	2.0
74	11	10					
74	11						
74	11	11					
74	11						
74	11						
74	11	12	13329	N08 W07	224	1300	3.0
74	11						
74	11	13	13329	N08 W21	224	1500	3.0
74	11						
74	11	14	13329	N08 W36	226	1400	3.0
74	11	16	13329	N07 W61	225	1300	2.5
74	11	17	13329	N07 W75	225	1200	1.5
74	11	18	13329	N07 W88	224	500	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	N07 E30				M	10	2	AXX
19509	N03 W09	252	(BF)	2	B	10	2	CRO
19510	N07 E21	222	(BF)	2	B	0	3	BXO
19509	N03 W21	249	(BY)	2	B	10	6	BXI
19511	N07 W01	229	(BP)	3	B	10	9	BXI
19510	N08 E07	221	(B)	2	B	10	5	BXO
19511	N06 W18	230	(B)	2	B	20	5	BXO
19510	N06 W11	223	(BP	2	B	10	11	BXO
19511	N06 W31	232	(X	2	R	20	3	CRO
19510	N06 W23	224	(AP)	2	R	20	3	CRO
19510	N08 W36	221	(AP)	2	R	10	2	AXX

MCMATH REGION 13337 CMP DATE 13.7

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	14	13337	S13 W13	203	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13330 CMP DATE 13.8

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	7	13330	N13 E84	199	300	1.5
74	11	8	13330	N13 E69	201	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13335 CMP DATE 15.7

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	13	13335	N11 E27	176	100	2.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13336 CMP DATE 16.8

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	14	13336	N39 E28	162	100	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13340 CMP DATE 17.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	15					
74	11	16	13340	S04 E06	158	200	3.0
74	11	17	13340	S04 W08	158	300	2.5
74	11	18	13340	S04 W22	158	200	2.5
74	11	22	13340	S04 W77	161	200	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	S04 E19				B	0	1	AXX
19514	S04 E05	158	(BP)	3	B	10	3	BXO
	S04 W06				B	0	3	BXO

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MCMATH REGION 13334 CMP DATE 17.8

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	12	13334	S39 E69	148	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13349 CMP DATE 20.6

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	23	13349	S05 W39	111	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13352 CMP DATE 21.4

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	25	13352	S06 W56	101	100	1.0
74	11	26	13352	S06 W70	101	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13338 CMP DATE 21.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	14	13338	N14 E87	103	600	2.0
74	11	15					
74	11	16	13338	N14 E66	98	3200	3.5
74	11	17	13338	N14 E53	97	3000	3.5
74	11	18	13338	N14 E40	96	3000	4.0
74	11	19					
74	11	20					
74	11	21					
74	11	22	13338	N14 W15	99	2800	3.5
74	11	23	13338	N14 W26	98	2800	3.0
74	11	24					
74	11	25	13338	N14 W53	98	2800	3.0
74	11	26	13338	N14 W66	97	2400	3.0
74	11	27	13338	N14 W80	99	2400	2.5

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19512	N14 E80	105	(AP)	3				
19512	N14 E78	99	(BP)	3	B	450	5	DHI
19512	N14 E65	98	(BP)	4	B	490	12	EHI
19512	N14 E53	97	(BP)	6	B	740	20	EHO
19512	N14 E39	98	(BP)	6	B	550	11	EHI
19512	N14 E26	98	(BP)	5	B	550	17	EHO
19512	N14 E13	98	(BP)	5	B	480	8	EHO
19512	N14 W01	98	(BP)	6	R	430	15	EHI
	N13 W16				B	480	13	CHO
19512	N13 W27	97	(BP)	5	R	410	10	CHI
19512	N13 W47	101	(AP)	5	B	450	5	HHX
19512	N13 W58	102	(AP)	6	B	480	5	CHO
	N14 W72				B	480	1	HXX
19512	N13 W87	102	AP		B	400	1	HSX

MCMATH REGION 13345 CMP DATE 22.4

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	22	13345	N07 W03	87	100	2.0
74	11	23	13345	N07 W16	88	100	2.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13342 CMP DATE 23.3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	22	13342	S11 E08	76	300	1.0
74	11	23	13342	S11 W05	77	100	1.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13346 CMP DATE 23.4

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	22	13346	N12 E10	74	100	1.0
74	11	23	13346	N12 W03	75	100	1.5

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

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MCMATH REGION 13341 CMP DATE 23.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	18	13341	N01 E62	74	500	3.0
74	11	19					
74	11	20					
74	11	21					
74	11	22	13341	N03 E11	73	900	3.5
74	11	23	13341	N03 W03	75	1000	3.0
74	11	24					
74	11	25	13341	N03 W29	74	1100	3.0
74	11	26	13341	N03 W43	74	800	2.5
74	11	27	13341	N03 W57	76	800	2.0
74	11	28	13341	N03 W72	76	800	2.0
74	11	29	13341	N01 W83	74	400	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19515	N01 E64	73	BF)	2	B	10	1	AXX
19515	N01 E31	93	(BF)	3				
19515	N01 E36	75	(B)	2	B	10	11	BXI
19515	N02 E24	73	(BF)	3	R	30	15	BXI
	N01 E09				B	30	30	CRO
19515	N02 W03	73	(BF)	4	R	40	14	CRI
19515	N02 W20	74	BF		B	0	4	BXO

MCMATH REGION 13354 CMP DATE 23.6

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	26	13354	N70 W48	71	100	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13347 CMP DATE 24.3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	22	13347	N06 E22	62	100	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

MCMATH REGION 13343 CMP DATE 26.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	18	13343	N08 E90	46	400	1.0
74	11	19					
74	11	20					
74	11	21					
74	11	22	13343	N09 E45	39	3200	3.0
74	11	23	13343	N10 E31	41	3800	3.0
74	11						
74	11	24					
74	11						
74	11	25	13343	N10 E05	40	3500	3.0
74	11						
74	11						
74	11	26	13343	N09 W09	40	3800	3.5
74	11	27	13343	N09 W22	41	3500	3.0
74	11	28	13343	N09 W37	41	3500	3.0
74	11						
74	11	29	13343	N09 W50	41	3500	3.0
74	11	30	13343	N09 W65	43	2800	3.0
74	12	02	13343	N08 W90		900	1.5

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
19516	N06 E79	45	(X	3	B	10	3	AXX
19516	N06 E63	48	(AP)	2	B	10	3	BXO
19516	N07 E50	47	(AP)	2	R	40	6	AXX
	N09 E36				B	10	6	BXO
19516	N08 E22	48	(B)	3	R	0	1	AXX
19517	N11 E28	42	X					
19516	N08 E06	48	(AP)	3	B	10	3	BXO
19517	N11 E10	44	X					
19516	N08 W06	50	(BP)	3	B	10	5	BXO
19517	N10 W01	45	(B)	3				
19518	N09 E03	41	(A)	2				
	N07 W02				B	40	2	BXO
19519	N03 W20	35	(B)	3	B	50	4	CSO
19520	N03 W40	44	X		R	0	2	AXX
19519	N05 W30	34	(BP)	4	R	30	5	CAO
19519	N04 W45	36	(AP)	3	B	20	1	AXX
19519	N04 W58	37	(AP)	2	R	0	1	AXX

MCMATH REGION 13348 CMP DATE 27.0 RETURN OF REGION 13310 ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT
74	11	22	13348	S11 E57	27	700	1.5
74	11	23	13348	S10 E44	28	800	2.0
74	11	25	13348	S10 E18	27	600	1.5
74	11	26	13348	S11 E05	26	400	1.5
74	11	27	13348	S12 W09	28	400	1.5
74	11	28	13348	S12 W24	28	600	2.0
74	11	29	13348	S12 W34	25	600	2.0
74	11	30	13348	S12 W49	27	400	1.5
74	12	02	13348	S12 W72		200	1.0

SUNSPOT DATA

NW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS

REGIONS OF SOLAR ACTIVITY

NOVEMBER 1974

MCMATH REGION 13356 CMP DATE 27.1

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	27	13356	S30 W06	25	200	1.0							
74	11	28	13356	S29 W21	25	100	1.0							

MCMATH REGION 13350 CMP DATE 28.0

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	23	13350	S02 E58	14	100	1.5							

MCMATH REGION 13357 CMP DATE 28.0

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	28	13357	N07 W10	14	400	1.5							
74	11	29	13357	N07 W23	14	200	1.0							

MCMATH REGION 13351 CMP DATE 28.1

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	23	13351	S17 E60	12	100	1.0							

MCMATH REGION 13355 CMP DATE 29.2

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	26	13355	S18 E34	358	100	1.0							

MCMATH REGION 13358 CMP DATE 30.0

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	28	13358	S19 E17	348	100	1.0							

MCMATH REGION 13353 CMP DATE 30.3

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	11	25	13353	N09 E61	345	100	1.0							
74	11	26	13353	N09 E48	344	200	1.0							
74	11	27	13353	N09 E34	346	100	1.0							
74	11	28	13353	N09 E19	346	300	1.0							
74	11	29	13353	N09 E07	345	300	1.0							

MCMATH REGION 13368 CMP DATE 30.8

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
74	12	03	13368	N07 W56		100	1.5							
74	12	04	13368	N07 W69		100	1.0							

REGIONS OF SOLAR ACTIVITY

NOVEMBER 1974

MCMATH REGION 13369 CMP DATE 30.9

				CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
74	12	04	13369	N04 W61		200	2.0								

Note: Region 13339 contains a high latitude spot (∿ N35°) which may be the first new cycle spot of cycle 21.
Region 13343 is new plage, formed in the location of old region 13311.
No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on November 3, 4, 5, 6, 10, 11, 15, 19, 20, 21 and 24, 1974.
No sunspot observations were made at Mt. Wilson Observatory on November 1, 22 and 26, 1974.

DAILY CALCIUM PLAGE INDEX

NOVEMBER 1974

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
74	11	1	10.6	74	11	11	*	74	11	21	*
74	11	2	12.5	74	11	12	7.6	74	11	22	20.1
74	11	3	*	74	11	13	5.3	74	11	23	21.6
74	11	4	*	74	11	14	3.6	74	11	24	*
74	11	5	*	74	11	15	*	74	11	25	18.9
74	11	6	*	74	11	16	6.4	74	11	26	17.9
74	11	7	19.5	74	11	17	7.1	74	11	27	12.1
74	11	8	16.5	74	11	18	9.9	74	11	28	11.1
74	11	9	13.3	74	11	19	*	74	11	29	8.8
74	11	10	*	74	11	20	*	74	11	30	5.3

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

NOVEMBER 1974

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
01	2248	2312	2257	1	3				2				2244	13324
03	0719E	0750	0729	1-	1			1					0714E	13324
03	1743	1904	1744	1-	5				2	1	10		1741	13324
04	0742	0810	0748	1	5	1		2	2		2		0740	13324
05	1534	1805	1542	2+	5	2	1	4	4		9		1539E	13310
05	1639	1710	1640	1+	1		1						1640	13324
06	0105	0236	0115	1-	3	1			3				NF	
06	0308	0514	0322	2	3	1	1		2				0309	13310
06	1212	1356	1245	2	5			1	5		1		1218	13315
06	1233	1330	1239	1	5	2	1	2	3		1		NF	
06	1354	1430	1403	1+	5	1	1	2	4		2		1404E	13324
06	1729	1757	1737	1-	5				2	1	9		NF	
06	1823	1908	1833	1	5				3	1	9		NF	
06	2120	2201	2123	1-	5				2	1	4		2105	13310
07	1527	1550	1532	1-	3			1	1		1		1522	13324
08	1022	1040	1023	1-	1			1					1024	13324
13	0400	0430	0410	1-	1				1				*	
17	0215	0418	0238	1-	1				1				0218	13338
19	1230	1500	1248	1	3				2		1		1232	13343

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01	1355-1923 UM (17 kHz)
03	0739-0900 UM (16 kHz), 1330-1739 UM (21 kHz), 1830-2400 UM (21 kHz)
04	0000-0325 UM (21 kHz), 0738-0852 UM (16 kHz)
05	0740-1400 UM (16 kHz)
06	0734-1004 UM (16 kHz), 1309-1827 UM (21 kHz)
07	0741-0947 UM (16 kHz), 1400-1559 UM (21 kHz)
08	0700-1220 MC, 0743-1100 UM (16 kHz)
09	0738-1205 UM (16 kHz)
10	0738-1245 UM (16 kHz)
11	0740-1147 UM (16 kHz)
12	0738-1325 UM (16 kHz), 1548-1552 TM
15	1409-1627 UM (17 kHz), 1531-1545 TM
19	1006-1323 UM (16 kHz), 1638-1836 TM, 1915-2004 TM
20	1310-1653 UM (21 kHz), 1905-2130 UM (21 kHz)
21	0400-0426 TM, 0740-0820 TM, 1131-1428 TM
22	1354-1505 UM (17 kHz), 1522-1733 UM (17 kHz)
26	1000-1125 UM (17 kHz), 1039-1250 UM (16 kHz), 2129-2230 TM
27	1640-1805 UM (13 kHz)
28	0000-0120 UM (13 kHz)

STATIONS REPORTING FOR NOVEMBER 1974

AAVSO (A1, A26) (SEA) (A1, A4, A19, A21, A28, A29, A30, A31, A32, A35, A36, A37, A40) (SES) (A31) (SWF)
BOULDER (BO) (SEA, SCNA)
DARMSTADT (DA) (SWF)
DEBRE ZEIT (DE) (SWF)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
INUBO (IN) (SPA)
JOHANNESBURG (JH) (SPA)
KUHLUNGSBORN (KU) (SEA, SPA)
KULA (KL) (SPA)
MANILA (MA) (SWF, ACNA, APA)
MC MATH (MC) (SWF, SCNA)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SPA, SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

SIDS BY McMATH REGION

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REGION																														
10					1	2																								
15						1-																								
24	1		2	1	1	1	1	1																						
38																	1													
43																			1											
X-RAY																														
UNKNOWN						4																								
NO FP													1																	

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1974

NOV 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
06	1330	2300	BOUL							1346.9	1401.5	2	1346.9	1401.5	2	IIIG
	1345	2336	HARV							1347	1358	2	1351	1356	2	IIIGG
			WEIS							1347.0	1357.5	2				IIIG
			SGMR										1347.2	1414.2	3	CONT
			DURN				1351.8	1352.3	2	1351.8	1352.3	2				IIIG
			HARV							1352.4	1359	3	1357	1359.4	3	II
			WEIS							1352.6	1355.8	3				II
			DURN				1353.2	1355.3	3	1353.2	1355.2	3				IVP
			WEIS							1357.8	1359.3	2				V
			DURN				1358.1	1400.2	2	1358.1	1400.2	2				IV
			BOUL							1400.0	1407.2	3	1400.8	1415.8	2	II
			HARV							1400.3	1414	2	1402.8	1413	2	II
			WEIS							1400.4	1412.8	2				II
			BOUL							1404.2	1418.0	3	1408.9	1417.2	2	II
			BOUL							1411.9	1417.8	1	1417	1419.0	1	II
	2015	2400	CULG													
	2153	2400	MANI													
07	0000	0908	MANI													
	0000	0715	CULG													
	0620	1616	DURN													
	0710	1511	WEIS													
	1129	2125	SGMR													
	1344	2335	HARV													
	1330	2400	BOUL							1500	1630	1	1500	1630	1	IV
			BOUL							1630	1930	1				IS
	2015	2400	CULG							2040	2142					IIIN,W
	2153	2400	MANI													
08	0000	0908	MANI													
	0000	0715	CULG							0134	0626					IIIN,W
			CULG							0135	0200	2				IIIGG
	0620	1357	DURN													
			CULG							0709	0712					IIIGG,W
	0710	1104	WEIS													
	1108	1506	WEIS													
	1130	2124	SGMR													
	1345	2334	HARV													
	1330	2400	BOUL							1438.9	1439.4	1	1438.9	1439.4	1	IIIG
			BOUL							1747.2	1748.2	1	1747.2	1748.2	1	IIIG
	2015	2400	CULG													
09	0000	0716	CULG													
	0000	0908	MANI													
	0708	1615	DURN													
	0713	1507	WEIS													
	1131	2123	SGMR													
	1330	2400	BOUL													
	1345	2334	HARV													
	2016	2400	CULG													
	2153	2400	MANI													
10	0000	0908	MANI													
	0000	0716	CULG													
	0620	1615	DURN													
	0714	1509	WEIS													
	1132	2121	SGMR													
	1344	2333	HARV													
	2016	2400	CULG				2047	2047.5		2047	2047.5					IIIG,W
	1330	2400	BOUL							2121.3	2121.5	1	2121.3	2121.5	1	III
			CULG				2123.5	2124		2121	2124.5					IIIG,W
	2153	2400	MANI													
			CULG							2205.5						IIIB,W
11	0000	0908	MANI													
	0000	0716	CULG				0634	0635		0634	0635					IIIG,W,U
	0637	1615	DURN													
	0754	1511	WEIS													
	0714	0746	WEIS							0759.9	0800.0	1				IIIB
	1330	2400	BOUL							1623.1	1626.2	2	1623.1	1626.2	2	IIIG
	1345	2333	HARV							1624	1627	2	1624	1626	3	IIIGG
	1134	2120	SGMR										1625.3	1625.7	1	III
	2016	2400	CULG													
	2154	2400	MANI													
12	0000	0908	MANI													
	0000	0716	CULG													
	0638	1615	DURN													
	0716	1512	WEIS													
	1135	2119	SGMR													
	1330	2400	BOUL													
	1344	2333	HARV													
	2016	2400	CULG													
	2154	2400	MANI													
13	0000	0908	MANI													
	0000	0716	CULG													
	0638	1607	DURN													
	0715	1008	WEIS													
	1021	1504	WEIS													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1974

NOV 1974	TIMES OF OBSERVATION		STATION	EVENTS														SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
13	1136	2116	SGMR															
	1330	2400	BOUL															
	1345	2333	HARV															
	2016	2400	CULG															
	2155	2400	MANI															
14	0000	0908	MANI															
	0000	0716	CULG															
	0637	1609	DURN															
	0714	1507	WEIS															
	1138	2117	SGMR															
	1330	2400	BOUL															
	1345	2333	HARV															
	2016	2400	CULG				2057	2057.5	1	2057	2057.5	1						IIIG
	2155	2400	MANI															
			CULG							2332.5								IIIB,W
15	0000	0908	MANI															
	0000	0716	CULG							0145	0653							IIIN,W
			CULG							0636.5	0637.5	1						IIIG,U
	0638	1608	DURN															
	0714	1430	WEIS							1013.3	1015.5	1						IIIG
	1139	2116	SGMR															
	1330	2400	BOUL							1449.7	1449.9	1	1449.7	1449.9	1			III
	1455	1509	WEIS															
			BOUL							1742.8	1748.5	1						IIIG
			BOUL							1822.6	1823.2	1	1822.6	1823.2	1			III
	2016	2152	CULG							2016	2400							IIIN,W
			CULG				2016	2400	1	2016	2400	1						IS
			CULG							2106		1						IIIB
			BOUL							2106.4	2106.6	1						III
			BOUL										2112.0	2112.7	1			III
			CULG							2113.5	2114.5	1						IIIG,U
	2155	2400	MANI															
	2200	2400	CULG							2226	2227	3						IIIG
	1345	2333	HARV							2227		3						IIIG
			BOUL							2227.0	2227.3	2	2227.0	2227.3	2			IIIG
16			CULG				0000	0520	1	0000	0520	1						IS,W
	0000	0716	CULG							0000	0716							IIIN,W
	0000	0908	MANI															
			CULG							0007	0008	1						IIIG
			CULG							0414	0415	1						IIIG,U
			CULG				0520	0716	1	0520	0716	1						IS
			CULG							0547.5		1						IIIB
	0638	1609	DURN															
	0711	1510	WEIS							0713.5	0713.7	2						IIIB
			WEIS							0715.0	1420.6	1						IN
	1140	2115	SGMR										1230.2	1230.5	1			III
			WEIS							1256.6	1256.8	1						IIIB
			SGMR										1256.8	1257.0	1			III
	1345	2333	HARV							1346	1416	1						I
			SGMR										1357.9	1358.1	1			III
			HARV							1434	2214	1						IN
	1330	2400	BOUL							1545	2322	1	1545	2322	1			CONT,IIIN
			HARV							1551	1700	1	1551	1700	1			IIIN
			HARV							2003	2005	3	2003	2005	3			IIIG
			SGMR										2003.0	2003.3	2			III
			CULG				2016	2400	1	2016	2220	1						IS
	2016	2400	CULG							2016	2400	1						IIIS
	2155	2400	MANI															
			HARV							2214	2332	1						I
			CULG							2220	2400	2						IS
			CULG							2246	2248	2						IIIG
17			CULG							0000	0717	1						IIIS
	0000	0717	CULG				0000	0717	1	0000	0130	1						IS
	0000	0019	MANI															
			CULG							0130	0510	1						IS,DC
			CULG				0319	0321	1	0319	0321	2						IIIGG
	0040	0908	MANI										0319.7	0320.3	1			III
			CULG							0354	0355	2						IIIG,U
			CULG							0510	0605	2						IS,DC
			CULG							0520	0521	2						IIIG,U
	0040	0908	MANI										0520.0	0520.4	2			III
			CULG							0557.5		2						IIIB
			CULG							0605	0717	1						IS,DC
	0659	1609	DURN							0659 E	1609 D	1						IN,DC,C
			CULG				0710.5	0711	1	0710.5	0712	2						IIIG
			DURN							0711.1	0711.2	2						III
	0716	1511	WEIS							0716.0	1452	1						IS
			WEIS							1000.6	1000.7	2						IIIB
			DURN							1000.6	1000.7	3						IIIG
			WEIS							1130.1	1140.4	3						IIIG
			DURN				1139.2	1139.5	1	1139.2	1139.6	3						IIIG
	1140	2115	SGMR										1140.0	1140.2	1			III
			DURN				1216.7	1217.7	1	1216.5	1218.3	1						IV
	1345	2333	HARV							1346	1405	1						I
			HARV							1405	1640	1						IN
			SGMR										1458.3	1503.2	1			IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1974

NOV 1974	TIMES OF OBSERVATION		STATION	EVENTS														SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
21			BOUL							2302.6	2303.0	1	2302.6	2303.0	1			III
22			CULG							0000	0718							IIIS,W
	0000	0718	CULG				0000	0718	1	0000	0718	1						IS,OC
	0000	0910	MANI															
			CULG							0110	0111	2						IIIG,U
	0703	1521	DURN							0703 E	1521 D	1						I,N
	0719	0937	WEIS															
	1148	2111	SGMR															
	1344	2333	HARV							1348	1635	1						IN
	1400	2400	BOUL							1502.8	1503.0	1						III
			BOUL							1523.7	1523.8	1						III
			BOUL							1546.3	1546.6	1	1546.3	1546.6	1			III
			BOUL										1827.4	1828.0	1			III
	2018	2400	CULG							2018	2250	1						IS,CONT
			CULG				2018	2250										IS,W
			CULG							2018	2250	1						IIIS,W
			BOUL										2020	2310	1			CONT
	2159	2400	MANI															
			CULG				2250	2400		2250	2400	2						IS,CONT
			CULG							2258	2345	1						IIIS
			HARV							2301	2333	1						I
			CULG					•		2345	2400							IIIS,W
23	0000	0718	CULG				0000	0718	1	0000	0145	1						IS
	0000	0910	MANI															
			CULG							0042	0043	2						IIIG,U
			CULG							0129.5		1						IIIB,U
			CULG							0145.5	0718	2						IS,CONT,OC
			CULG				0304	0718	1	0000	0718	1						IIIN
	0704	1521	DURN							0704 E	1521 D	1						I,N
	0725	1237	WEIS							0726	1045	2						IS
			WEIS							1122.2	1122.6	1						IIIG
	1149	2110	SGMR															
	1345	2332	HARV							1409	1846	1						IN
	1400	2400	BOUL							1532.1	1533.0	1	1532.1	1533.0	1			III
			BOUL							1640	1715	1	1640	1715	1			CONT
			BOUL							1821.2	1822.3	1						III
			BOUL							1826.6	1826.7	1						III
			HARV							1846	1926	1						I
			BOUL							1852.9	1853.1	1						III
			HARV							1926	2000	1						IN
			CULG				2018	2400	1	2018	2400	1						IS
	2018	2400	CULG							2018	2400	1						IIIN
			CULG				2157	2158	1	2157	2158	1						IIIG
	2159	2400	MANI															
			HARV							2237	2330	1						IN
			CULG				2353	2354	1	2353	2354	1						IIIG,U
24			CULG							0000	0719	1						IIIN
	0000	0719	CULG				0000	0719	1	0000	0719							IS,W
	0000	0910	MANI															
			CULG							0425	0427	2						IIIG
			CULG							0431		2						IIIB,U
			CULG				0653	0654	1	0653	0654	2						IIIG
	0704	1518	DURN							0704 E	1518 D	1						I,N
			DURN							1159	1223	3						I,DC,C
	1345	2332	HARV							1400	1604	1						IN
	1400	2400	BOUL							1624.7	1624.9	2	1624.7	1624.9	2			III
			HARV							1713	1716	3	1713	1716	3			IIIGG
			BOUL							1713.3	1716.6	3	1713.3	1716.6	3			IIIGG
			BOUL							1808	1829	1	1808	1829	1			CONT
			HARV							1820	2019	1	1820	2019	1			IIIN
			HARV							1827	1830	2	1827	1830	2			IIIG
			BOUL							1827.4	1829.9	2	1827.4	1829.9	2			IIIG
			HARV							1854		2						UNCLF
			BOUL							2012.8	2023.0	2	2012.8	2023.0	2			IIIGG
	2019	2400	CULG				2019	2400	1	2019	2400	1						IS
			CULG							2019	2400	1						IIIN
			CULG							2019.5	2022.5	2	2019.5	2022.5	2			IIIGG,V
			HARV							2020	2022	3	2020	2022	3			IIIGG,V
	1150	2110	SGMR										2020.0	2020.2	2			III
	2201	2400	MANI															
			BOUL							2218.8	2219.0	1	2218.8	2219.0	1			III
			BOUL							2253.9	2254.0	1						III
			CULG							2330	2332	2						IIIG,U
25	0000	0719	CULG				0000	0719	1	0000	0719	1						IS
			CULG							0000	0719	1						IIIN
			CULG				0126	0127	1	0126	0127.5	2	0126	0127	2			IIIG,V
	0000	0910	MANI										0126.3	0127.7	3			V
			CULG				0152	0153	1	0152	0153	1						IIIG,U
			CULG							0158	0201 0*	#####	#H					IIIGG,V
			CULG				0509	0510	1	0509	0510	1						IIIG
	0704	1518	DURN							0704 E	1518 D	1						IN
			DURN				0906.7	0906.9	1	0906.7	0907.3	2						IIIG
	0725	1448	WEIS							0906.9	0907.4	1						IIIG
			WEIS							0935.1	0936.0	1						IIIG
			DURN							0935.7	0935.9	2						IIIG
			WEIS							0938.8	0939.3	1						IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1974

NOV 1974	TIMES OF OBSERVATION		STATION	EVENTS														SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
25			WEIS							1004	1433	1						IN
			WEIS							1004.0	1005.6	1						IIIG
	1151	2109	SGMR															
	1400	2400	BOUL															
	1400	2332	HARV															
			WEIS							1423.4	1423.8	1						IIIG
	2105	2400	CULG															
			CULG							2105	2400	1						IIIN
			CULG				2105	2400	1									IS
			CULG							2153		1						IIIB
	2201	2400	MANI															
26	0000	0720	CULG				0000	0720										IS,W
			CULG							0000	0720	1						IIIN
			CULG							0028		1						IIIB
			CULG							0041	0042	1						IIIG
			DURN							0721.6	0721.9	2						IIIGG
	0000	0910	MANI										0721.8	0722.1	1			III
	0704	1516	DURN				1000	1516 D	1	0704 E	1516 D	1						I,N
	1000	1513	DWIN				1000	1513	1	1000	1513	1						I
			DWIN				1231.0	1232.2	1	1231.0	1232.2	1						IIIGG
	0727	1450	WEIS							1248.2	1248.8	1						IIIG
			DWIN							1248.3	1248.7	2						IIIG
			DWIN				1317.4	1317.6	2	1317.4	1317.6	2						IIIG
			WEIS							1317.5	1317.7	1						IIIG
	1400	2400	BOUL							1512.0	2255.9	2	1512.0	2255.9	2			IIIN
	1152	2108	SGMR										1517.1	1517.3	1			III
			SGMR										1531.9	1532.1	1			III
	1401	2332	HARV							1532	1533	1						IIIG
			HARV							1544	1545	1	1544	1545	1			IIIG
			HARV							1602		3	1602		3			IIIB
			BOUL							1735	2310	1	1735	2310	1			CONT
			HARV							1845	1956	2	1846	1956	2			IIIN
			HARV							1951	1953	2	1951	1953	2			IIIG
			SGMR										1951.8	1952.2	1			III
			HARV							2008	2009	1	2008	2009	1			IIIG
	2019	2400	CULG				2019	2400	1	2019	2400	1						IS
			CULG							2019	2400	1						IIIS
			CULG							2118	2121	2						IIIGG,U
			HARV							2118	2119	2	2118	2119	2			IIIG
			CULG							2200	2210	2						IIIGG
			HARV							2201	2202	1						IIIG
	2202	2400	MANI															
			HARV							2205	2206	2						IIIGG
			CULG				2205	2206	1	2205	2206	3						IIIG
27			CULG				0000	0720		0000	0720							IS,W
	0000	0720	CULG							0000	0205	1						IIIS
			CULG							0205	0720	1						IIIN
			CULG							0649	0653	1						IIIGG
			CULG				0712	0713	1	0712	0713	1						IIIG
	0730	1157	WEIS							0808.0	0811.3	2						IIIGG
	0720	1516	DURN							0809.8	0810.1	3						IIIG
	0811	1523	DWIN				0811	1523	1	0811	1523	1						IW
			DURN							0812.8	0814.1	3						IIIGG
			WEIS							0812.8	0814.5	3						IIIG
			DWIN				0813.6	0814.4	3	0811.7	0814.4	3						IIIGG
	0000	0910	MANI										0813.8	0814.4	2			III
			DWIN							0910.7	0910.9	2						IIIG
			DWIN				1020.0	1020.3	2	1020.0	1020.3	2						IIIG
			DURN							1020.0	1020.2	2						IIIG
			WEIS							1020.0	1020.4	1						IIIG
			DWIN							1145.5	1146.0	2						IIIG
	1154	2108	SGMR															
			DWIN							1214.3	1214.4	1						IIIG
			DWIN							1216.7	1217.0	1						IIIG
	1400	2332	HARV															
	1400	1900	BOUL										1410.0	1417.0	1			CONT
			DWIN							1423.5	1424.5	1						IIIG
	2019	2200	CULG							2019	2200	1						IIIN
	2200	2400	BOUL															
	2202	2400	MANI															
28	2202	2240	MANI	0														
	0000	0910	MANI															
	0030	0719	CULG							0030	0719							IIIN,W
	0704	1516	DURN															
	0752	1506	DWIN				0752	1506	1	0752	1506	1						IW
	1015	1454	WEIS															
	1155	2107	SGMR															
	1401	2332	HARV															
	2019	2400	CULG							2019	2400							IIIN,W
	1400	2400	BOUL							2211.7	2212.5	1	2211.7	2212.5	1			III
			BOUL										2216.7	2217.2	1			III
29	0000	0910	MANI															
	0000	0720	CULG							0000	0720							IIIN,W
	0711	1516	DURN															
	0747	1518	DWIN				0747	1518	1	0747	1518	1						IW
			DWIN							0853.0	0853.7	2						IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1974

NOV 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
29			DWIN							0912.3	0912.5	2				IIIG
	0734	1457	WEIS							0912.4	0912.6	1				IIIB
	1156	2107	SGMR										1349.8	1409.3	1	IIIG
			WEIS							1353.3	1354.2	1				IIIG
			DWIN				1423.2	1423.5	1	1423.2	1423.5	1				IIIG
			SGMR										1424.7	1429.3	2	IIIG
	1400	2400	BOUL							1426.8	1429.7	1	1426.8	1429.7	1	IIIG
	1401	2333	HARV							1626		3	1626		3	IIIG,V
			BOUL							1626.1	1626.9	1	1626.1	1626.9	1	III
			SGMR										1626.1	1626.5	2	III
	2020	2400	CULG													
	2203	2400	MANI													
30	0000	0913	MANI													
	0000	0720	CULG							0325	0628					IIIN,W
			CULG							0550	0602	1				IIIGG
			CULG				0551	0555	1	0551	0555	2				IIIGG,V,U
			CULG							0610	0621	1				II
	0711	1516	DURN													
	0735	1458	WEIS							1331.5	1332.8	1				IIIG
	1157	2107	SGMR										1331.8	1332.1	1	III
			SGMR										1346.7	1347.8	2	III
			WEIS							1346.7	1347.8	2				IIIG
	1401	2334	HARV							1851	1852	3	1851	1852	3	IIIG
			SGMR										1851.4	1851.9	2	III
			HARV							2000	2001	3	2000	2001	3	IIIG
	1925	2330	BOUL							2019.5	2021.3	2	2019.5	2021.3	2	IIIG
	2020	2400	CULG							2020	2315					IIIN,W
			CULG				2049		1	2049		1				IIIB
	2203	2400	MANI													
			CULG							2220	2222.5	1				IIIG,V
			BOUL							2220.6	2322.7	2	2220.6	2322.7	2	IIIG

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

Errata to SGD 363 - Part I, pp 104-113:
The spectral type as observed at Culgoora in September 1974 should be changed to "IV" for the bursts with starting times at 10/2127, 11/0042, 11/0106, 19/2340, 20/0000 and 24/0402.5.

SELECTED SOLAR EVENTS

NOVEMBER 1974

Culgoora

UT Date 197.4 November	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
6	0312	0315	{160	1.1	290	0	2 }		
			{ 80	1.2	290	0	3 }	III G, V	
			{ 43	1.6	320	-	3 }		
	0315	0325	{160	1.1	290	0	2 }		
			{ 80	1.2	290	0	3 }	II	
			{ 43	1.6	320	-	3 }		
	0325	0400	{160	1.2	250	0	1-2}		Complex structure in initial stages
			{ 80	2.0	270	0	1-2}	IV	
			{ 43	2.0	320	-	1 }		
23	0042	0043	{ 80	0.4	340	0	1 }	III G, U	*
			{ 43	0.6	340	-	2 }		
25	0126	0128	{160	1.1	330	0	3 }		
			{ 80	1.1	330	0	3 }	III G, V	*
			{ 43	0.4	0	-	3 }		

Days without Heliograph observations: Nil

* Other type IIIs observed from same position during day.

COSMIC RAY INDICES

(Neutron Monitors)

NOVEMBER 1974

NOV 1974	THULE Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	TOKYO Average cts/hr
1	4391.8	7206.6	6736.3	Not available at time of publication	Not available at time of publication	6138.6	3508.2
2	4405.0	7228.9	6769.6			6130.2	3511.0
3	4391.5	7230.5	6762.0			6123.3	3508.7
4	4377.8	7182.5	6732.0			6102.1	3504.5
5	4396.0	7206.3	6757.1			6106.8	3502.7
6	4391.8	7205.2	6756.6			6099.8	3518.2
7	4385.7	7191.3	6746.1			6096.5	3507.7
8	4390.9	7211.3	6747.0			6122.8	3509.0
9	4358.2	7125.9	6740.0			6127.7	3525.8
10	4386.9	7170.6	6762.8			6155.6	3528.1
11	4383.4	7188.3	6760.5			6154.9	3517.3
12	4387.6	7207.0	6761.1			6156.7	3508.6
13	4391.3	7212.7	6788.6			6153.7	3508.0
14	4338.5	7130.6	6738.9			6089.4	3496.7
15	4400.3	7213.3	6764.9			6116.7	3497.8
16	4415.8	7260.5	6786.4			6154.4	3512.0
17	4420.9	7257.0	6802.3			6161.7	3512.8
18	4435.0	7281.4(6)	6809.8			6182.0	3533.5
19	4422.9	-- (0)	6831.4			6179.1	3516.0
20	4392.5	-- (0)	6765.3			6134.9	3503.0
21	4361.9	-- (0)	6715.5			6092.2	3499.6
22	4367.4	-- (0)	6727.6			6097.8	3504.0
23	4365.8	7195.7(23)	6713.8			6094.7	3508.4
24	4371.8	7214.3	6726.3			6120.7	3507.7
25	4387.7	7221.0	6768.5			6167.8	3514.0
26	4390.0	7215.5	6790.8			6161.3	3519.2
27	4405.0	7238.7	6801.8			6174.7	3523.6
28	4411.2	7197.3	6830.0			6205.0	3536.1
29	4433.3	7255.9	6842.2			6194.7	3533.5
30	4434.5	7264.5	6837.1			6178.7	3539.2
MEAN	4393.1	7212.0	6769.1			6139.2	3513.8

( ) Number of hours for which data are available if less than 24.

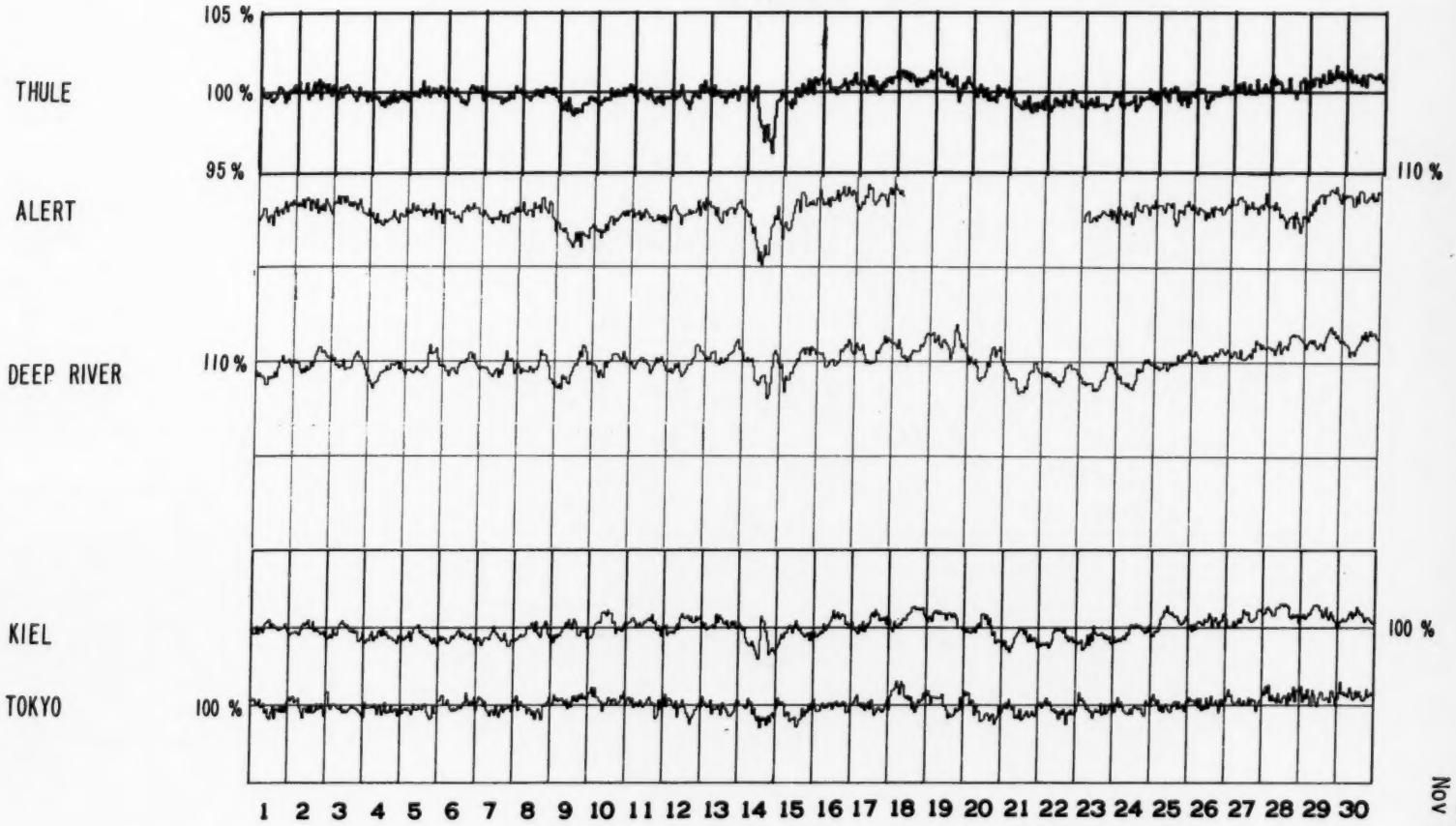
Thule, Alert, Calgary, Sulphur Mountain and Kiel Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo " " = 128.

See *Descriptive Text* for other characteristics.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

NOVEMBER 1974



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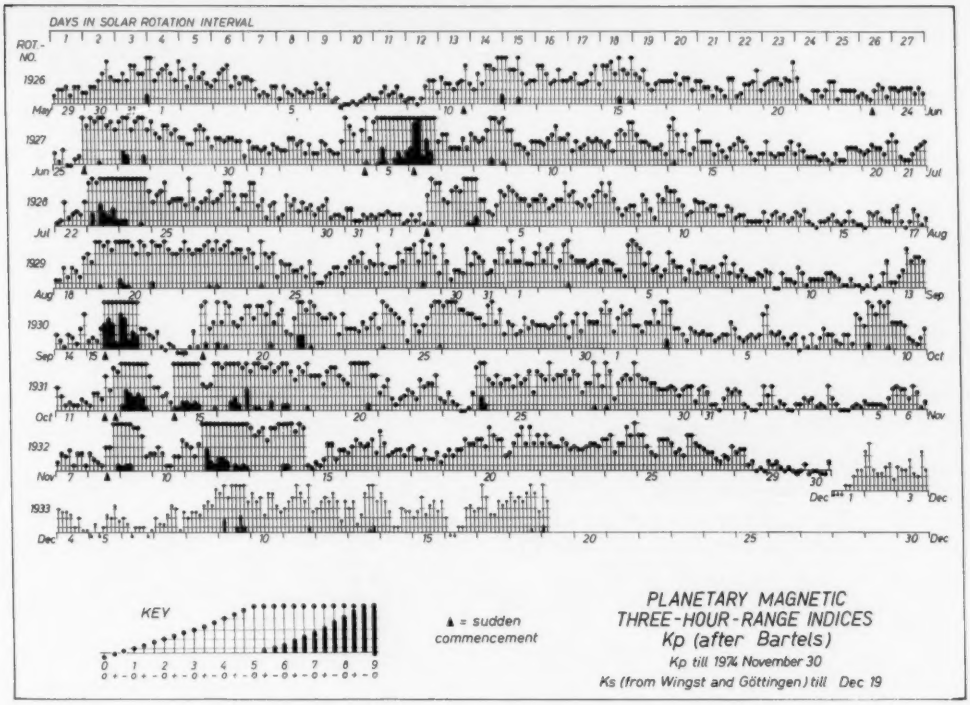
GEOMAGNETIC ACTIVITY INDICES

NOVEMBER 1974

Day	Three-Hour Range Indices Kp									Prel Ci	Cp	Ap	aa			
	1	2	3	4	5	6	7	8	Sum				N	S	M	
1 Q	3-	2+	1	1-	0+	0+	1	3	11+	0.2	0.3	6	14	10	12 12	KK
2QQ	2	3	1-	1+	1	0+	0+	1	10-	0.0	0.2	5	11	13	15 9	CK
3 Q	1	2-	1+	2-	1-	1	1-	3	11	0.2	0.3	6	10	11	11 10	CC
4QQ	2-	1	0+	0+	0+	1-	1	1-	6	0.1	0.1	3	6	9	7 7	CC
5QQ	1+	1	1	1	1	1-	2-	3-	10+	0.2	0.2	5	10	8	7 12	CK
6	3	3-	3-	2-	3	2+	1-	1+	17+	0.7	0.5	10	17	21	18 20	
7 Q	1+	2+	2	3-	1	2+	2+	1	15	0.4	0.4	7	16	17	19 15	
8	2+	2-	1+	1	3	3	5	4-	23	1.1	1.1	21	33	43	12 65	
9 D	5+	6-	6-	5-	5-	4	2	2+	34+	1.3	1.4	39	48	58	69 37	
10	2+	3	2+	1	1	2	2	4-	17+	0.6	0.5	10	23	12	17 19	
11 D	3+	3	2	3+	5	7	6	6-	35+	1.7	1.6	48	69	70	24 116	
12 D	6+	6+	6	5	6-	5+	6-	5+	46-	1.7	1.8	70	79	101	101 80	
13 D	5-	4	4+	5-	4-	5-	5-	5	36-	1.5	1.4	36	58	47	47 59	
14 D	6-	6-	5	4+	5	5-	1	1-	32	1.4	1.4	38	41	60	66 35	
15	1+	1	2-	3+	3+	2-	3-	3-	18-	0.6	0.6	10	18	22	15 25	
16	2+	3	4-	3+	3	3+	4-	2+	25-	0.9	0.9	16	27	25	24 29	
17	4+	3+	2	2+	3-	3-	2	3-	22	0.7	0.8	14	23	21	22 22	
18 Q	3	2-	2-	3-	2-	2-	2+	1+	16	0.4	0.4	8	16	14	15 16	
19	2	3-	2	3-	3-	4-	3+	3+	22+	0.9	0.8	14	26	21	19 29	
20	4-	4-	3	5-	4	4-	4-	2	28+	1.1	1.1	22	39	34	38 35	
21	2+	3+	4	5-	3+	5-	3+	4	30-	1.2	1.2	24	43	34	29 47	
22	3+	4	3+	3	3	4-	3+	3-	26+	1.0	1.0	18	29	25	26 29	
23	3	3-	3-	3	3+	3+	3	4-	25-	0.9	0.9	16	27	25	22 31	
24	4-	4	2+	3+	3+	5-	4	5	30+	1.1	1.2	26	47	37	27 57	
25	4	4	3	2+	2	4-	4-	4-	26+	0.8	1.0	19	31	29	27 33	
26	3+	2+	3-	2	4	4	3+	3	25-	0.8	0.9	17	29	32	20 40	
27	3-	2+	2+	2-	1+	2	2-	3	17	0.4	0.5	9	17	15	14 18	
28 Q	2+	3-	3-	1	1+	0+	1-	0+	11+	0.1	0.3	6	11	11	14 8	CK
29QQ	1+	1	1+	1-	0+	1-	0+	0	6-	0.1	0.1	3	5	9	10 3	CC
30QQ	0+	1	0	0+	0+	0	0	1+	3+	0.0	0.0	2	3	6	5 4	CC
									MEAN	0.74	0.76	18	27.6	28.1	27.9	

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

	1973	1974										
DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	4	17	13	20	17	9	28	10	6	24	28	6
2	2	9	12	18	15	18	18	12	22	32	30	5
3	5	11	8	20	39	24	19	9	35	16	12	6
4	29	13	7	10	35	34	9	31	24	20	8	3
5	17	14	8	18	18	35	6	74	21	19	10	5
6	10	12	7	20	26	6	6	130	20	14	11	10
7	8	2	10	13	18	15	3	15	22	12	6	7
8	7	10	5	17	13	13	6	36	16	7	10	21
9	21	7	4	33	16	11	7	15	16	5	39	39
10	6	14	14	30	28	3	15	20	16	6	10	10
11	8	6	30	32	19	5	32	14	10	4	6	48
12	4	5	40	15	3	5	29	23	5	6	17	70
13	4	5	20	10	7	4	21	12	6	16	86	36
14	6	3	12	16	5	10	18	23	5	9	30	38
15	8	15	4	3	4	30	37	10	4	73	50	10
16	4	15	7	42	4	26	16	10	6	88	68	16
17	6	16	11	9	6	38	15	8	6	3	47	14
18	2	24	1	3	48	24	10	6	10	19	43	8
19	13	9	4	2	39	18	13	6	40	34	29	14
20	29	14	12	23	46	18	18	11	46	35	41	22
21	34	16	23	68	35	18	7	9	39	43	10	24
22	25	5	14	39	31	22	8	8	37	24	15	18
23	18	4	44	42	29	25	7	82	36	16	5	16
24	4	4	29	34	19	39	8	51	26	26	38	26
25	3	50	34	28	20	14	10	22	13	30	22	19
26	4	38	28	20	21	11	40	20	7	38	28	17
27	6	34	26	22	19	14	54	24	18	25	25	9
28	11	18	27	18	23	10	26	18	20	14	29	6
29	19	22		34	19	7	19	13	31	16	18	3
30	15	21		20	16	17	15	8	17	21	12	2
31	17	19		24		30		6	21		8	
MEAN	11	15	16	23	21	18	17	24	19	23	26	18

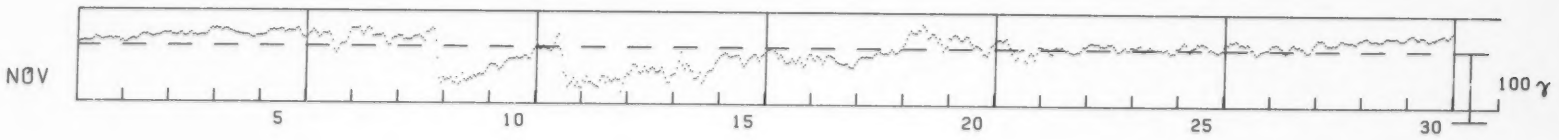
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

NOVEMBER 1974

(Time-UT)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	5	6	6	7	7	6	6	7	9	13	11	10	8	8	9	9	10	10	8	10	9	9	5	7
2	4	4	6	8	9	9	8	10	13	15	15	15	16	14	13	12	13	14	14	15	17	18	17	17
3	16	15	15	14	15	17	18	14	13	14	17	19	14	15	13	14	15	15	14	16	19	23	25	23
4	25	24	24	21	23	24	23	21	20	19	17	17	16	16	15	15	15	14	12	11	11	14	14	14
5	14	15	16	19	22	22	23	22	22	23	24	23	19	20	22	21	21	21	24	25	21	14	12	11
6	14	17	19	23	20	17	12	14	18	18	17	19	15	7	-6	-10	-5	1	3	3	5	11	19	25
7	25	25	25	27	20	16	20	25	27	24	14	14	15	15	15	17	13	5	1	2	10	12	12	15
8	14	14	9	10	9	9	10	13	14	14	15	13	11	7	20	20	23	27	24	7	-17	-46	-53	-45
9	-49	-47	-48	-44	-52	-53	-45	-55	-52	-39	-43	-50	-48	-45	-47	-42	-44	-41	-39	-41	-40	-36	-31	-27
10	-25	-26	-26	-29	-33	-31	-28	-23	-21	-18	-17	-17	-17	-15	-17	-17	-16	-13	-13	-17	-17	-9	-4	-2
11	2	-3	-2	1	-2	-3	-3	-6	-2	5	14	18	-4	-13	-37	-42	-57	-53	-50	-45	-57	-51	-58	-58
12	-48	-51	-42	-51	-51	-53	-55	-57	-56	-48	-42	-42	-51	-43	-48	-50	-47	-45	-47	-47	-64	-52	-43	-38
13	-40	-34	-25	-25	-28	-36	-38	-35	-28	-34	-35	-31	-29	-31	-36	-36	-34	-29	-36	-44	-51	-51	-41	-39
14	-38	-30	-20	-7	-25	-31	-24	-27	-33	-35	-45	-45	-42	-36	-52	-47	-41	-35	-33	-33	-30	-22	-19	-15
15	-11	-10	-8	-9	-13	-14	-13	-12	-11	-11	-15	-23	-27	-23	-18	-15	-13	-10	-10	-14	-19	-12	-10	-7
16	-4	-3	-1	0	-5	-8	-14	-10	-13	-19	-22	-22	-20	-15	-19	-22	-17	-13	-21	-27	-24	-15	-9	-9
17	-15	-17	-11	-13	-16	-22	-18	-12	-10	-11	-13	-14	-19	-21	-22	-23	-24	-23	-22	-27	-28	-28	-23	-19
18	-15	-13	-12	-13	-12	-13	-13	-13	-9	-7	-2	-5	-7	-8	-7	-8	-5	-1	-4	-7	-6	-3	-1	4
19	8	15	22	26	23	22	22	27	26	35	32	27	15	17	22	21	17	10	15	7	-3	2	4	16
20	14	19	20	19	16	12	12	15	18	17	11	7	2	5	4	2	0	-8	-8	-10	-4	4	6	9
21	12	13	13	11	13	15	8	2	-6	-2	-13	-12	-2	0	0	-16	-19	-8	-5	-8	-15	-5	3	3
22	2	0	1	-2	-6	-7	1	3	1	1	3	0	-2	-1	-4	-5	-6	-5	-4	-4	-1	4	3	5
23	8	9	9	8	8	8	5	5	4	5	8	7	8	5	1	-3	-3	-1	1	3	-1	-1	3	3
24	2	2	5	6	-2	-2	-1	1	4	1	0	-1	0	0	0	-2	0	1	-3	-6	-5	-5	2	2
25	4	8	11	8	-1	-3	2	3	4	9	7	9	9	7	6	0	2	0	-2	-3	-4	-2	0	5
26	9	8	12	11	12	14	12	8	9	8	5	9	7	1	1	-4	-7	-5	-2	-1	0	1	1	5
27	8	8	9	8	5	3	-2	-4	-2	4	7	9	6	5	6	3	3	0	-3	-3	-1	5	9	12
28	16	15	16	14	10	8	8	7	9	8	9	12	15	15	13	13	12	12	13	11	10	14	16	16
29	18	19	19	16	14	14	15	14	13	14	14	17	19	19	18	18	18	19	17	15	15	15	17	20
30	22	23	23	20	17	17	20	20	19	16	14	15	17	16	18	20	21	22	23	20	19	22	25	27



PRINCIPAL MAGNETIC STORMS

NOVEMBER 1974

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
HD	76.0N	8	1415	SC	- 0.2	+23	- 2	08(7,8)	5	5	125	10	09	18
CO	64.6N	8	14--	..	..	..	..	09(3,4)	7	315	1700	1230	09	19
SI	60.0N	8	1415	SC	- 7.4	+15	+ 7	09(4)	8	90	930	750	09	19
NE	55.1N	8	1414	SC	4	13	3	09(4)	7	51	211	300	09	19
WI	54.2N	8	1414	SC*	+ 2 *	-14 *	0	08(7,8)	6	30	140	85	09	19
FR	49.6N	8	1414	SC*	- 3	+14	- 2	09(3)	6	29	101	101	09	16
BD	48.9N	8	1415	SC	- 2	+ 9	+ 1	09(3)	6	35	90	90	09	21
IR	41.0N	8	1415	SC*	2.1	33	6	08(8)	6	23	140	52	09	19
TU	40.4N	8	1414	SC*	- 1	+11	+ 1	09(3)	6	19	125	35	09	20
SJ	29.9N	8	1409	SC	1.0	9	2	09(7)	6	8	144	34	09	10
AL	9.5N	8	1414	SC	- 0.1	21	- 2	08(7)	6	5	123	21	09	18
GU	4.0N	8	1414	SC	--	22	-06	08(8)	5	0	120	20	09	19
AN	1.5N	8	1414	SC	- 0.8	27	15	--	-	3	118	35	09	18
HU	0.6S	8	1413	SC*	2	81	5	08(6,7,8)	5	7	267	42	09	16
TV	1.1S	8	1414	SC	0.0	19	26	--	-	3	115	76	09	18
AP	16.0S	8	1414	SC	0	+20	- 8	08(7,8)	5	7	111	35	09	18
PM	18.7S	8	1409	SC	0.2	28	24	08(7)	5	7	130	60	09	19
HR	33.7S	8	1414	SC	+ 3	+16	+16	08(7,8)	5	17	93	106	09	16
GN	43.2S	8	1415	SC	+ 1	+24	+ 5	08(7,8) 09(5)	5	13	110	90	09	19
TO	46.7S	8	1415	SC*	- 1.0*	+45	+ 9	08(7,8) 09(3,4,5)	5	16	140	60	09	19
KG	56.5S	8	1414	SC	--	--	--	08(8)	8	--	--	--	09	19
HD	76.0N	10	1500	..	..	..	..	11(6)	6	5	179	18	13	22
GU	4.0N	10	2016	..	..	..	..	11(5)	5	10	120	30	14	02
PM	18.7S	10	20--	..	..	..	..	11(5,6) 14(2)	6	9	130	90	14	18
GN	43.2S	10	20--	..	..	..	..	11(6) 12(5)	7	27	130	170	14	18
CO	64.6N	11	07--	..	..	..	..	11(6) 12(3,5) 14(4,5)	7	398	2230	1460	14	19
SI	60.0N	11	09--	..	..	..	..	11(6)	8	120	1180	790	14	18
NE	55.1N	11	0648	..	..	..	..	12(2,3)	7	87	391	435	14	19
WI	54.2N	11	11--	..	..	..	..	11(6,8)	7	62	305	190	14	18
FR	49.6N	11	07--	..	..	..	..	11(6) 12(1,2,3,8) 14(1,2,3,4)	5	36	146	109	14	17
BD	48.9N	11	09--	..	..	..	..	12(2)	7	43	160	115	14	19
IR	41.0N	11	08--	..	..	..	..	11(6)	7	40	200	66	14	19
TU	40.4N	11	09--	..	..	..	..	12(2,3) 14(2)	6	22	145	35	14	19
SJ	29.9N	11	1100	..	..	..	..	11(5)	5	8	134	37	14	17
HO	21.1N	11	08--	..	..	..	..	12(3)	5	9	119	32	14	18
AL	9.5N	11	10--	..	..	..	..	11(5,6,7)	6	5	156	31	12	20
AN	1.5N	11	10--	..	..	..	..	--	-	4	157	65	12	20
HU	0.6S	11	1110	..	..	..	..	11(6)	7	10	371	55	14	02
TV	1.1S	11	10--	..	..	..	..	--	-	4	167	131	12	20
AP	16.0S	11	00--	..	..	..	..	12(1,7)	5	7	105	27	13	15
HR	33.7S	11	09--	..	..	..	..	11(6,7) 12(1,3,6,7,8) 13(8)	6	33	145	164	14	02
TO	46.7S	11	09--	..	..	..	..	11(5,6) 12(1,3)	6	28	240	120	14	18
KG	56.5S	11	09--	..	..	..	..	11(5,6,7,8) 12(1,6,7)	7	--	--	--	14	18
HD	76.0N	14	0249	SC	- 0.8	+34	- 3	14(2,5,6)	5	4	124	13	14	18
AL	9.5N	14	0249	SC	- 1.0	31	-12	14(2)	6	4	119	21	14	18
GU	4.0N	14	0250	SC	1	42	-14	14(2)	5	0	110	30	14	17
AN	1.5N	14	0249	SC	- 2.2	63	25	--	-	5	150	53	14	18
HU	0.6S	14	0249	SC	1	43	6	14(5,6)	5	8	127	22	14	19
TV	1.1S	14	0249	SC	0.2	59	62	--	-	3	163	130	14	18
HR	33.7S	14	0249	SC	+ 2	+18	+16	14(3)	5	20	100	72	14	17
HD	76.0N	19	0130	..	..	..	..	20(4)	5	3	106	11	20	23
HU	0.6S	19	1100	..	..	..	..	19(6)	5	7	203	20	20	21
GN	43.2S	19	04--	..	..	..	..	20(4)	6	19	70	130	28	13
HD	76.0N	21	0530	..	..	..	..	21(6)	5	4	84	26	22	21
CO	64.6N	21	07--	..	..	..	..	21(6)	7	131	1070	560	22	22
NE	55.1N	21	07--	..	..	..	..	21(3,4)	5	27	81	89	23	00
HU	0.6S	22	0535	..	..	..	..	22(6)	5	5	162	25	22	20
WI	54.2N	24	10--	..	..	..	..	24(6,8)	6	20	155	40	25	07

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

NOVEMBER 1974

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc and si are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

08 1414: A: SO NU SI ES DB LG CI PE KS SZ HU LM CZ; B: DO WN VI FU CF IK EB TL KA SS PM PP KG DU; C: NI

14 0249: A: HU; B: IK KS PP LM; C: KA SS SZ (si: B: PM)

Sudden impulses found in the magnetograms (si)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

02 1204 - 1212 SZ

06 0746 - 0758 SZ

07 0913 - 0930 NI

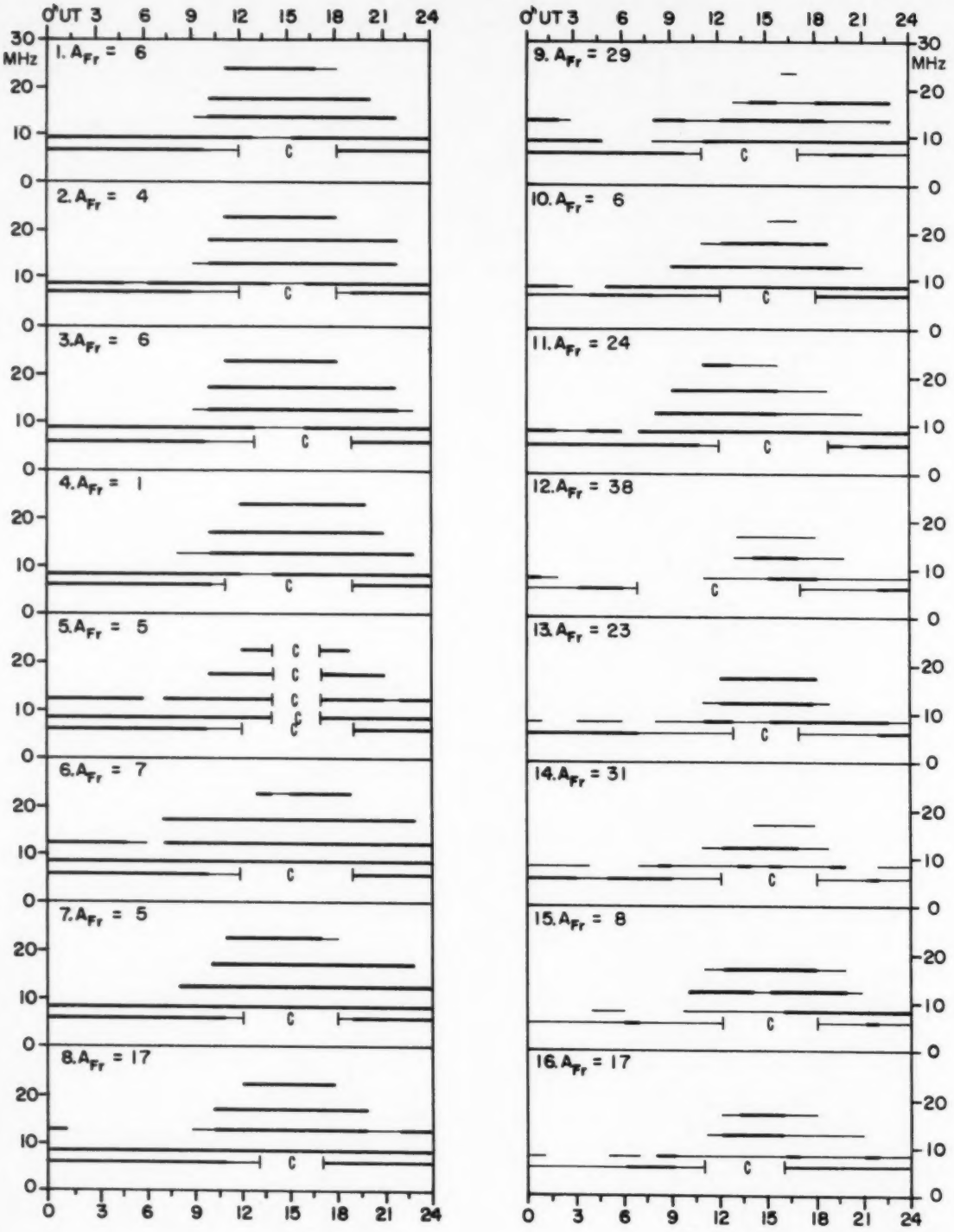
RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

North Atlantic — NOVEMBER 1974

NOV 1974	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	NORTH ATLANTIC SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	6o	6	6o	6o	6+	6-	6	5	6	6	2	1	6
02	6o	6	6-	6+	6o	6o	6	6	6	6	2	0	4
03	5+	6	5+	5o	6-	6-	6	6	6	6	2	2	6
04	6o	6	6-	6-	6+	7-	6	6	6	6	1	0	1
05	6o	6	6+	6o	6o	6o	6	6	6	6	1	2	5
06	6o	6	6-	6o	6-	6o	6	5	5	6	2	2	7
07	6o	6	7-	5+	6-	6o	6	5	5	6	2	1	5
08	6+	5	6o	6o	7-	6-	6	5	5	6	2	(4)	17
09	5+	4	6-	6o	4+	5+	5	5	3	4	(5)	3	29
10	6-	4	5+	6o	5+	5+	5	5	5	5	2	1	6
11	6-	4	6o	6-	6o	5o	5	5	5	4	3	(4)	24
12	4o	4	4o	2+	5+	4o	4	4	4	5	(5)	(4)	38
13	4+	4	3+	4-	6-	5+	4	4	5	5	(4)	(4)	23
14	4+	4	4+	4+	5-	4+	4	3	4	5	(5)	2	31
15	5-	5	5-	4+	6-	5-	5	5	5	6	2	2	8
16	5o	5	5-	6-	6-	4+	5	5	5	5	3	3	17
17	5o	5	5-	6o	5+	4+	5	5	5	5	3	2	9
18	5o	6	4+	5+	5+	5o	6	5	5	5	2	1	5
19	5+	6	5-	5+	6o	6-	5	5	6	5	2	3	10
20	5+	6	5o	6-	5o	5+	5	5	5	5	3	3	16
21	5+	5	5o	5+	6-	6-	5	5	5	6	3	3	18
22	5+	5	6-	5o	6-	4+	5	4	5	6	3	3	15
23	6-	5	5-	6o	6o	6-	6	6	6	6	3	3	12
24	5+	5	6-	6-	6-	5-	5	5	5	5	3	(4)	21
25	6-	5	5o	5+	6+	6-	5	5	5	6	3	3	15
26	6-	6	6o	5-	6-	6o	5	5	6	6	2	3	10
27	6-	6	6o	5+	6-	6-	6	5	6	6	2	1	6
28	5+	6	5+	5o	6-	5+	6	5	5	5	3	1	7
29	6-	6	6-	6-	6-	6o	5	5	6	6	2	0	3
30	6o	6	6+	5+	6o	6-	6	6	6	6	0	1	1

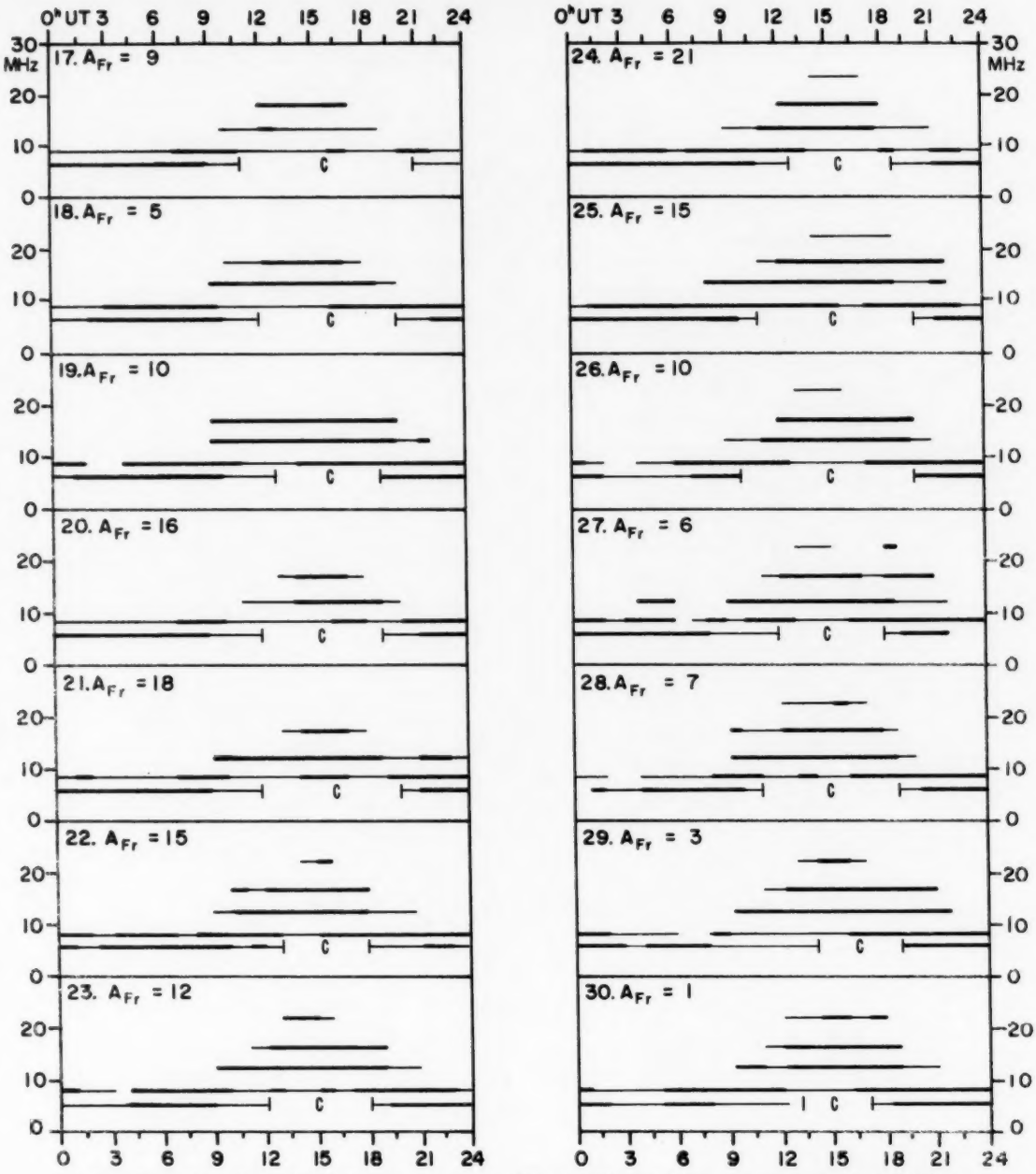
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

NOVEMBER 1974



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

NOVEMBER 1974



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

NOVEMBER 1974

Quality Indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MAURITIUS	CANBERRA
1	7.4	8.7	7.6	4.7
2	7.2	8.8	7.3	4.9
3	7.0	9.6	7.4	5.3
4	7.1	9.7	6.9	5.9
5	7.7	9.7	6.5	4.9
6	7.6	10.1	7.5	5.7
7	7.8	9.7	7.0	6.3
8	8.1	9.2	6.9	5.5
9	6.2	5.6	6.7	5.3
10	6.3	7.1	6.6	5.2
11	6.8	5.7	6.8	5.5
12	6.4	4.6	6.6	4.6
13	5.8	5.0	6.0	4.8
14	5.6	3.3	5.3	4.2
15	5.6	4.2	5.6	4.0
16	4.9	5.6	5.9	4.2
17	5.2	5.2	6.0	4.3
18	6.3	5.0	6.2	4.4
19	6.4	6.7	6.7	4.3
20	6.3	5.2	5.9	4.6
21	5.9	6.0	6.1	4.4
22	5.9	5.7	6.1	4.6
23	6.4	6.6	6.2	4.7
24	5.7	6.1	7.0	4.9
25	6.4	6.0	6.5	5.0
26	6.8	5.7	6.3	5.6
27	5.3	5.6	6.1	4.8
28	5.3	6.3	5.2	5.0
29	5.4	5.8	5.9	4.5
30	5.4	6.1	6.7	4.3

The method of calculation of the radio propagation indices changed in July 1974. An absolute quality figure is calculated for a 24-hour period from Tokyo, Halifax, Mauritius (Africa) and Canberra. The figure 0.0 corresponds to a median field strength of -30 dB above 1μV/m (converted into 1 kW and referred to an omnidirectional antenna). The figures 1 to 10 are in steps of 5 dB with the figure 10.0 corresponding to a median field strength of +20 dB above 1μV/m. The field strength of the frequency with the highest value for each hour is used in place of a mean of all recorded frequencies. This is done on the assumption that the optimum frequency would be used for communication.

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AMERICAN REVOLUTION BICENTENNIAL
1776-1976

January 1975 Number 365-Part II

Solar-Geophysical Data comprehensive reports

Data for July 1974–June 1974
& Miscellanea

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Solar - Geophysical Data

NO. 365 JANUARY 1975

Part II (Comprehensive Reports)

DATA FOR
JULY 1974
JUNE 1974
& MISCELLANEA

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 365

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

Hα SOLAR FLARES
Confirmed
JULY 1974

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MOUNT PALACE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH MG	MAX. INT. %	
497 MANI	01	0037E	0050	0038	S14	E34	.611	13043	3.6	13D	1N	2		0038	1.86	2.32			F 2
GRP60498	01	0301	0320	0307	S17	E30	.583	13043	3.4	19	--F				.30				2 2 2 4
PALE	01	0301	0320	0306	S17	E30	.583	13043	3.4	19	-N	2	C		.27				F
TEHR	01	0303E	0319	0308U	S17	E30	.583	13043	3.4	16D	-F	3	V		.33				
499 ATHN	01	0400	0414	0402	S10	W10	.280	13030	28.4	14	--F	2	C		.33				DE 4
GRP60500	01	0455	0504	0458	S10	W09	.270	13030	30.5	9	--N				.59				3 3 3 5
MANI	01	0455E	0457D	0455U	S11	W10	.293	13030	28.5	2D	-F	1		0455	.52	.54			
VORO	01	0455	0502	0458	S11	W08	.275	13030	28.6	7	-B		C	0458	.99	1.00		64	EJ
TEHR	01	0456	0505	0500	S09	W09	.257	13030	28.5	9	-N	3	V		.25				DE
GRP60502	01	0602	0616	0605	S10	W10	.280	13030	30.5	14	--N				.65				3 3 3 5
TEHR	01	0600	0615D	0607	S09	W09	.257	13030	28.6	16D	-N	3	C		.50				DE
MANI	01	0603E	0612D	0603U	S11	W10	.293	13030	28.5	9D	-N	2		0603	1.13	1.18			F
ATHN	01	0604	0616	0605	S10	W10	.280	13030	28.5	12	-N	2	C		.33				DE
GRP60503	01	0647	0712	0656	S11	W09	.284	13030	30.6	25	--N				.78				2 2 2 4
MANI	01	0639	0712	0655	S11	W09	.284	13030	28.6	33	-N				1.03	1.07			
MANI	01	0639	0712	0645	S11	W09	.284	13030	28.6	33	-F	2		0645	.41	.43			F
MONT	01	0654	0711	0657	S11	W09	.284	13030	28.6	17	-N		C	0657	.52				E
GRP60504	01	0734	0739	0735	S11	W10	.293	13030	30.6	5	--F				.28				2 2 2 5
ATHN	01	0733	0738	0734	S11	W11	.303	13030	28.5	5	-F	1		0734	.34	.33			
MONT	01	0734	0740	0735	S11	W09	.284	13030	28.6	6	-N		C	0735	.21				D
GRP60507	01	0808	0822	0812	S11	W11	.303	13030	30.5	14	--N				.65				5 5 5 7
MANI	01	0806E	0817	0809	S11	W11	.303	13030	28.5	11D	-B	1		0809	.62	.65			F.
MONT	01	0807	0826	0809	S11	W09	.284	13030	28.7	19	-N		C	0809	.52				
ATHN	01	0808	0818	0810	S11	W11	.303	13030	28.5	10	-N	1		0810	.52	.50			
ARCE	01	0809	0820	0811	S10	W12	.302	13030	28.4	11	-N		C	0811	.63	.70			
ABST	01	0819E	0828	0820	S10	W12	.302	13030	28.4	9D	-F		P	0820	.96	1.00			E
GRP60508	01	0849	0919	0856	S14	E36	.636	13043	4.1	30	--F				.54				2 2 2 7
ABST	01	0848	0930	0857	S14	E35	.624	13043	4.0	42	-F		C	0857	.87	1.10			F
MONT	01	0850	0907	0854	S13	E36	.631	13043	4.1	17	-N		C	0854	.21				DM
GRP60509	01	0853	0906	0856	S11	W11	.303	13030	30.5	13	--N				.90				7 7 7 7
ARCE	01	0858E	0900D		S10	W11	.290	13030	28.5	10D	-B		C	0855	.50	.50			
MANI	01	0850	0857D	0854	S11	W11	.303	13030	28.5	7D	-N	2		0854	.62	.65			F
HERS	01	0852E	0906	0857	S10	W11	.290	13030	28.5	14D	-B		P	0857	1.49	1.50	1.18		D
MONT	01	0852	0906	0855	S11	W10	.293	13030	28.6	14	-N		C	0855	1.13				
ABST	01	0854	0907	0857	S10	W12	.302	13030	28.5	13	-N		C	0857	1.31	1.40			DV
ATHN	01	0854	0905	0855	S11	W12	.314	13030	28.5	11	-N	1		0855	.68	.64			
CATA	01	0856	0900D	0856	S11	W11	.303	13030	28.5	4D	-B	1		0856	.58	.60		(295)	
GRP60511	01	1035	1047	1036	S13	E28	.530	13043	3.5	12	-B				1.49				6 6 6 7
ABST	01	1034	1048	1036	S12	E27	.510	13043	3.5	14	1B		C	1036	2.44	3.80	.99		F
ATHN	01	1034	1049	1036	S12	E28	.523	13043	3.5	15	-N	1		1036	.85	.88			
ARCE	01	1035E	1045D		S13	E27	.517	13043	3.5	10D	-B		C	1035	.60	.70			
CATA	01	1035	1045	1035	S13	E28	.530	13043	3.5	10	1B	3		1035	1.73	2.05		(355)	
MONT	01	1035	1046	1036	S12	E28	.523	13043	3.5	11	1N		C	1036	2.58				
MCMA	01	1036E	1048D		S15	E29	.556	13043	3.6	12D	-B		C	1036	.72	.90			BE
GRP60512	01	1052	1127	1112	S13	E35	.618	13043	4.1	35	-N				1.41				4 3 3 5
MONT	01	1052	1124	1111	S13	E35	.618	13043	4.1	32	-N		C	1111	1.13				
ABST	01	1052E	1131D	1112	S13	E35	.618	13043	4.1	39D	1N		P	1112	2.36	3.10	.89		FU
ATHN	01	1053	1124	1055	S14	E33	.599	13043	3.9	31	-N	1		1055	.52	.53			
RAMT	01	1114E	1126	1114U	S13	E35	.618	13043	4.1	12D	-N	3	C		.74				UDE
GRP60513	01	1156	1215	1200	S15	E33	.605	13043	4.0	19	-N				.98				3 3 3 4
MONT	01	1154	1213	1158	S13	E35	.618	13043	4.1	19	-N		C	1158	1.86				
MCMA	01	1155	1212	1159	S17	E32	.606	13043	3.9	17	-N		C	1155	.41	.58			E
ATHN	01	1158	1220	1202	S14	E33	.599	13043	4.0	22	-N	1		1202	.68	.70			
GRP60515	01	1259	1345	1305	S14	E35	.624	13043	4.2	46	--F				.83				3 3 3 7
MONT	01	1256	1346	1309	S13	E34	.606	13043	4.1	50	-N		C	1309	.62				E
RAMT	01	1257	1345	1300	S15	E34	.617	13043	4.1	48	-F	3	C		1.02				DE
ATHN	01	1305	1344	1306	S13	E36	.631	13043	4.2	39	-F	1		1306	.85	.88			
GRP60517	01	1557	1616	1600	S13	E25	.492	13043	3.5	19	-B				1.65				5 5 4 6
MONT	01	1544	1608	1549	S16	E30	.576	13043	3.9	16	-N		C	1549	1.13				E
MCMA	01	1556	1625	1559	S12	E24	.471	13043	3.5	29	-B		C	1559	1.44	1.50			EL
MEUD	01	1556	1612	1559	S13	E25	.492	13043	3.5	16	-B		C	1559	1.55	1.70			
MONT	01	1556	1623	1600	S13	E24	.479	13043	3.5	27	1N		C	1600	2.58				
BOUL	01	1557	1610	1558	S12	E24	.471	13043	3.5	13	-B		V	1558		1.80			
ATHN	01	1558	1612	1603	S13	E23	.466	13043	3.4	14	-N	1		1603	1.02	1.01			

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OBSERVATORY	OBSERVED UT DATE JULY	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH HG	MAX. INT. %	REMARKS
GRP60518	01	1612	1650	1626	S14	E30	.562	13043	3.9	38	--N				.65				6 5 5 7
MCMA	01	1605E	1700D	1619	S15	E30	.569	13043	3.9	55D	-N		C	1619	.83	.90			E
MONT	01	1605	1654	1615	S14	E30	.562	13043	3.9	49	-N		C	1615	.72				E
HJAN	01	1610E	1619D		S13	E28	.530	13043	3.8	9D	-F	1	P	1614	.46	.56			E
MEUD	01	1617	1635	1626	S15	E30	.569	13043	3.9	18	-N		C	1626	.41	.50			
MEUD	01	1617	1635	1619	S15	E30	.569	13043	3.9	18	-N		C						
ATHN	01	1621	1649	1624	S13	E34	.606	13043	4.2	28	-N	1		1624	.85	.88			
PALE	01	1646E	1712	1646U	S15	E31	.581	13043	4.0	26D	-N	2	C		.99				U
6 STATIONS REPORTING GROUP 60519. 2 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60519	01	1724	1851	1730	S14	E30	.562	13043	4.0	87	-F				.48				4 4 4 8
MEUD	01	1723	1734D		S15	E30	.569	13043	4.0	11D	-F		C	1730	.31	.40			
MONT	01	1724	1740D	1735	S14	E30	.562	13043	4.0	16D	-N		C	1735	.52				E
PALE	01	1725E	1851D	1725U	S14	E30	.562	13043	4.0	86D	-N	2	C		.55				U
HJAN	01	1729E	1743D		S14	E31	.574	13043	4.1	14D	-F	2	P	1735	.52	.64			E
60519	01	1802	1915	1828	S14	E33	.599	13043	4.2	73	*-N				1.41				3 3 3 4
BOUL	01	1802	1900D	1828	S14	E33	.599	13043	4.2	58D	-N		C	1828	1.71	2.05			
MCMA	01	1829E	1915D		S15	E33	.605	13043	4.2	46D	1N		C	1829	1.65	2.18			F
HJAN	01	1836E	1837D		S13	E34	.606	13043	4.3	1D	-F	1	P	1836	.88	1.09			E
GRP60520	01	1955	2005	1957	S16	E29	.564	13043	4.0	10	--F				.41				2 2 1 3
HJAN	01	1955	2005	1957	S16	E28	.552	13043	3.9	10	-F	1	C						
PALE	01	1956E	1958D	1957U	S16	E29	.564	13043	4.0	2D	-F	2	C		.41				
	01	2059	2205	NO FLARE PATROL															
GRP60521	01	2205	2252	2223	S13	E30	.555	13043	4.2	47	-B				1.66				2 2 2 3
VORO	01	2205E	2249		S12	E29	.536	13043	4.1	44D	1B		C	2214	1.88	2.30	221.45	84	EJ
MANI	01	2220E	2255	2223	S13	E30	.555	13043	4.2	35D	-N	1		2223	1.44	1.72			F
MANI	01	2220E	2255	2246	S13	E30	.555	13043	4.2	35D	-F			2246	1.44	1.72			
GRP60522	01	2334	0037	0003	S15	E27	.532	13043	4.0	63	-N				1.27				2 2 2 4
MANI	01	2333E	0000	2352	S15	E28	.544	13043	4.1	27D	-N			2352	1.24	1.46			
MANI	01	2333E	0000D	2344	S15	E28	.544	13043	4.1	27D	-N	2		2344	1.24	1.46			F
BOUL	01	2335	0022D	0004	S15	E26	.520	13043	3.9	47D	-N		C	0004	1.50	1.67			
MANI	02	0000E	0037D	0002	S15	E28	.545	13043	4.1	37D	-N	2		0002	1.03	1.22			F
MANI	02	0000E	0037D	0004	S15	E28	.545	13043	4.1	37D	-N			0004	.83	.97			
MANI	02	0000E	0037D	0006	S15	E28	.545	13043	4.1	37D	-N			0006	.83	.97			
MANI	02	0000E	0037D	0016	S15	E28	.545	13043	4.1	37D	-N			0016	.83	.97			
MANI	02	0000E	0037D	0011	S15	E28	.545	13043	4.1	37D	-N			0011	.83	.97			
GRP60523	02	0112	0122	0116	S12	E18	.396	13043	3.4	10	--N				.63				3 3 3 5
BOUL	02	0109	0123D	0117	S13	E19	.418	13043	3.5	14D	-F		C	0117	.64	.68			
PALE	02	0113	0117	0115	S12	E14	.349	13043	3.1	4	-N	2	V		.36				F
VORO	02	0115	0127	0116	S12	E21	.433	13043	3.6	12	-N		C	0122	.90	1.80		59	D
GRP60525	02	0235	0257	0243	S13	E27	.518	13043	4.1	22	--B				.71				2 2 2 4
MANI	02	0232E	0259D	0244	S15	E24	.497	13043	3.9	27D	-N	2		0244	.52	.59			F
VORO	02	0237	0254	0242	S11	E27	.504	13043	4.1	17	-B		C	0242	.98	1.80		64	DJ
MANI	02	0250	0259D	0252	S13	E29	.543	13043	4.3	9D	-F	2		0252	.21	.25			
2 STATIONS REPORTING GROUP 60528. 3 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60528	02	0414	0436	0418	S13	E18	.406	13043	3.5	22	--F				.65				2 2 2 5
ATHN	02	0412	0433D	0415	S12	E18	.396	13043	3.5	21D	-F	3	C		.33				DE
ABST	02	0416	0436	0420	S13	E18	.406	13043	3.5	20	-F		C	0420	.96	1.10			F
528 ABST	02	0422	0430	0424	S15	E23	.485	13043	3.9	8	*-F		C	0424	.96	1.10			F 4
GRP60529	02	0451	0540	0455	S15	E23	.485	13043	3.9	49	--F				1.26				2 2 2 4
ABST	02	0449	0500D	0457	S17	E24	.515	13043	4.0	71D	1N		P	0457	1.83	2.20	.74		FU
ATHN	02	0452	0519	0453	S13	E22	.455	13043	3.9	27	-F	1		0453	.68	.68			
GRP60530	02	0544	0603	0545	S14	E23	.476	13043	4.0	19	--N				.40				2 2 2 4
MANI	02	0543E	0555D	0544	S15	E22	.473	13043	3.9	12D	-N	2		0544	.62	.69			
MANI	02	0543E	0555D	0549	S15	E22	.473	13043	3.9	12D	-N			0549	.62	.69			
ATHN	02	0545	0603	0546	S13	E23	.467	13043	4.0	18	-N	1		0546	.17	.16			
GRP60531	02	0600	0631	0618	S16	E22	.483	13043	3.9	31	--B				.69				4 4 4 7
CATA	02	0600E	0620D	0615	S17	E20	.471	13043	3.8	20D	-B	3		0615	.58	.65		(363)	
MANI	02	0610E	0617D	0612	S17	E22	.492	13043	3.9	7D	-B	1		0612	.62	.71			
ATHN	02	0612E	0620D	0620D	S14	E23	.476	13043	4.0	8D	-N	4	V		.83				DE
ATHN	02	0612E	0614D	0614D	S14	E23	.476	13043	4.0	2D	-N	4	V		.50				DE
MEUD	02	0617E	0631	0623	S16	E20	.460	13043	3.8	14D	-N		C	0623	.72	.80			
MEUD	02	0617E	0631	0618	S16	E20	.460	13043	3.8	14D	-N		C						
MANI	02	0625E	0630D	0625U	S15	E24	.497	13043	4.1	5D	-N	1		0625	1.03	1.18			F

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
7 STATIONS REPORTING GROUP 60532.																			2 STATIONS OBSERVING AND NOT REPORTING.
GRP60532	02	0629	0746	0649	S16	E23	.494	13043	4.0	77	1N				2.61				6 5 5 8
ABST	02	0606	0738	0648	S17	E24	.515	13043	4.1	92	1B		C	0648	2.01	2.40	.80		FK
ABST	02	0622	0711	0648	S15	E23	.485	13043	4.0	49	-N		C	0648	.87	1.10			FK
MONT	02	0629E	0803	0646	S15	E24	.497	13043	4.1	94D	1N		C	0646	2.58				
CATA	02	0630E	0700D	0655	S16	E23	.494	13043	4.0	30D	1B	3		0655	2.90	3.33		(417)	
MEUD	02	0634	0735	0645	S15	E20	.458	13043	3.8	61	1N		C	0645	2.06	2.30			
KIEV	02	0636E	0745D	0650	S17	E23	.503	13043	4.0	67D	1N		C	0650	3.50	4.10		60	EI
MANI	02	0719E	0758D	0730	S14	E23	.476	13043	4.0	31D	1B			0730	2.17	2.42			
MANI	02	0747E	0758D	0747U	S16	E22	.483	13043	4.0	11D	-N	2		0747	1.55	1.76			FZ
60532	02	0657	0720	0703	S13	E17	.394	13043	3.6	23	*-N				1.56				4 4 4 8
MEUD	02	0655	0710	0702	S14	E15	.384	13043	3.4	15	-N		C	0702	.72	.80			
MONT	02	0656	0716	0704	S12	E17	.384	13043	3.6	20	-N		C	0704	1.13				E
ABST	02	0700	0711	0702	S12	E17	.384	13043	3.6	11	-N		C	0702	.96	1.10			E
ARCE	02	0703E	0741		S13	E20	.430	13043	3.8	38D	1B		C	0703	3.41	4.10			BT
60532	02	0708	0739	0716	S14	E23	.476	13043	4.0	39	*1N				1.54				3 3 2 9
MEUD	02	0634	0735	0715	S15	E20	.458	13043	3.8	61	1N		C						
ABST	02	0708	0733	0715	S12	E27	.511	13043	4.3	33	1N		C	0715	1.83	2.20			E
MANI	02	0719E	0758D	0719U	S14	E23	.476	13043	4.0	31D	-B	1		0719	1.24	1.38			UZ
8 STATIONS REPORTING GROUP 60535.																			1 STATIONS OBSERVING AND NOT REPORTING.
GRP60535	02	0944	1005	0946	S16	E19	.449	13043	3.8	21	1N				2.31				6 6 6 8
ATHN	02	0943	0959	0945	S15	E18	.427	13043	3.8	16	-N	1		0945	.85	.84			
MONT	02	0943	1010	0946	S16	E20	.460	13043	3.9	27	1N		C	0946	3.40				
ABST	02	0943	1004	0946	S15	E20	.458	13043	3.9	21	1B		C	0946	2.18	2.50		83	F
ABST	02	0943	1004	0946	S18	E20	.481	13043	3.9	21	1N		C	0946	2.18	2.60		74	F
ZURI	02	0944	1006	0946	S17	E19	.460	13043	3.8	22	1N		C	0946	2.73	3.10			
CATA	02	0945	1005	0945	S17	E20	.471	13043	3.9	20	1B	3		0945	4.05	4.59		(295)	
LOCA	02	0950E	0955D	0950	S12	E17	.384	13043	3.7	5D	-N		V	0950	.63	.70			
60535	02	0809	1010	0906	S15	E20	.458	13043	3.8	121	*-F				1.57				2 2 2 10
MANI	02	0809E	0910D	0906	S16	E21	.471	13043	3.9	61D	-N			0906	1.13	1.27			
MANI	02	0809E	0910D	0855	S16	E21	.471	13043	3.9	61D	-N			0855	.83	.92			
MANI	02	0809E	0910D	0818	S16	E21	.471	13043	3.9	61D	1F	2		0818	2.06	2.30			F
ARCE	02	0901E	1018		S13	E19	.418	13043	3.8	69D	-N		P	0901	1.07	1.20			
60535	02	0818	0856	0834	S16	E21	.471	13043	3.9	38	*-N				.26				2 2 2 10
MANI	02	0809E	0910D	0836	S16	E21	.471	13043	3.9	61D	-N			0836	.31	.35			
MONT	02	0827	0842	0832	S16	E20	.460	13043	3.9	15	-N		C	0832	.21				D
GRP60538	02	1015	1029	1018	S14	E20	.440	13043	3.9	14	--N				.66				4 4 4 7
ABST	02	1014	1031	1018	S13	E22	.455	13043	4.1	17	-F		C	1018	.96	1.10			E
MONT	02	1014	1029	1018	S14	E20	.440	13043	3.9	15	-N		C	1018	.62				E
ARCE	02	1016	1025	1019	S14	E20	.440	13043	3.9	9	-B		C	1019	.57	.60			
ATHN	02	1016E	1030	1018U	S13	E19	.418	13043	3.9	14D	-F	4	V		.50				DE
GRP60541	02	1348	1415	1403	S16	E16	.418	13043	3.8	28	--F				.80				3 3 3 6
BOUL	02	1345	1427	1408	S18	E14	.424	13043	3.6	42	-F		C	1408	.32	.33			
ZURI	02	1350	1412	1358	S17	E16	.430	13043	3.8	22	-N		C	1358	1.58	1.70			
ATHN	02	1400E	1409	1404	S13	E19	.418	13043	4.0	9D	-F	2	V		.50				DE
GRP60542	02	1609	1616	1611	S13	E21	.442	13043	4.2	7	--N				.55				4 4 3 5
MEUD	02	1607	1614	1611	S13	E22	.455	13043	4.3	7	-N		C	1611	.41	.40			
ZURI	02	1608	1616	1610	S13	E20	.430	13043	4.2	8	-N		C	1610	.73	.80			
BOUL	02	1610	1620	1612	S13	E21	.442	13043	4.2	10	-F		V	1612		.70			
RAMY	02	1610E	1615	1612	S14	E21	.452	13043	4.2	5D	-N	4	V		.50				DE
GRP60543	02	1626	1655	1636	S13	E10	.322	13043	3.4	29	--N				.83				6 6 6 6
BOUL	02	1621	1710	1632	S13	E11	.331	13043	3.5	49	-N		C	1632	.75	.76			
RAMY	02	1627E	1654D	1640	S13	E11	.331	13043	3.5	27D	-N	4	V		1.32				FDE
ZURI	02	1627	1651	1643	S14	E10	.336	13043	3.4	24	-N		C	1643	1.26	1.30			
MEUD	02	1627	1651	1639	S13	E11	.331	13043	3.5	24	-N		C	1639	.62	.70			
ATHN	02	1628	1649	1630	S13	E10	.322	13043	3.4	21	-N	2	V		.66				DE
PALE	02	1628	1631D	1630	S09	E08	.248	13043	3.3	3D	-N	2	V		.36				F
PALE	02	1628	1631D	1630	S09	E08	.248	13043	3.3	3D	-N	2	V		.36				F
GRP60546	02	1923	2100	1939	S17	E11	.386	13043	3.6	97	-N				1.61				3 3 3 3
RAMY	02	1922E	2103D	1942	S15	E11	.358	13043	3.6	101D	-F	3	V		1.32				F
BOUL	02	1923	1951	1936	S19	E11	.414	13043	3.6	28	-N		C	1936	1.61	1.64			
MCMA	02	1943E	2057D		S16	E10	.365	13043	3.6	74D	1N		P	1943	1.91	2.10			BE
	02	2109	2115	NO FLARE PATROL															
547 PALE	02	2220U	0003	2220U	S13	E30	.556	13043	5.2	103D	-B	2	C		1.39				U 3

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60548	02	2247	2353	2312	S15	E14	.386	13043	4.0	66	1N				2.16				4 3 3 4
CJLG	02	2242	2345	2307	S15	E14	.386	13043	4.0	63	1N		P	2307	2.27	2.31			
BOUL	02	2252	2357	2314	S15	E15	.396	13043	4.1	65	1F		C	2314	2.14	2.22			
MANI	02	2315E	2356	2315U	S16	E12	.381	13043	3.9	41D	1N	2		2315	2.06	2.20			FZ
PALE	02	2352	0053	2352U	S15	E24	.497	13043	4.8	61	-N	2	C		1.03				U
PALE	02	2352	0053	0001U	S15	E24	.497	13043	4.8	61	-N	2	C		.83				U
550 MANI	03	0149	0209	0159	S12	W37	.639	13030	28.3	20	--N	2		0159	.72	.95			2
GRP60551	03	0205	0255	0214	S15	E06	.326	13043	3.5	50	-B				2.52				2 2 2 3
MANI	03	0205	0255	0216	S15	E08	.338	13043	3.7	50	1B			0216	4.13	4.36			
MANI	03	0205	0255	0208	S15	E08	.338	13043	3.7	50	1B	2		0208	2.06	2.18			FU
TEHR	03	0210E	0248D	0212U	S15	E04	.317	13043	3.4	38D	-N	2	C		.91				F
6 STATIONS REPORTING GROUP 60552. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60552	03	0259	0412	0318	S15	E09	.344	13043	3.8	73	1B				5.00				5 5 5 5
CULG	03	0251	0400	0316	S16	E07	.347	13043	3.6	69	1N		C	0316	4.64	4.50			
TEHR	03	0258E	0345D	0319	S17	E07	.362	13043	3.6	47D	2B	2	C		7.02				F
MANI	03	0300	0425D	0316	S15	E08	.338	13043	3.7	85D	2B			0316	6.19	6.54			
KODA	03	0317	0400	0320	S15	E13	.378	13043	4.1	43	1N		C	0317	2.67	2.67	2.72		CEJ
VORO	03	0320E	0424		S13	E08	.308	13043	3.7	64D	1B		C	0325	4.48	4.90	32.55	92	EJH
60552	03	0300	0425	0305	S15	E08	.338	13043	3.7	85	*1B				2.58				2 1 1 5
MANI	03	0300	0425D	0305	S15	E08	.338	13043	3.7	85D	1B	2		0305	2.58	2.73			UZ
ATHN	03	0338E	0353	0338U	S15	E04	.317	13043	3.5	15D	-N	2	C		.66				DE
60554	03	0417	0437	0420	S14	E10	.338	13043	3.9	20	--N				.74				3 3 3 7
ATHN	03	0416	0443	0420	S12	E11	.319	13043	4.0	27	-N	3	C		.50				DE
VORO	03	0417	0432	0419	S13	E12	.342	13043	4.1	15	-B		C	0419	1.08	1.20		77	EJ
TEHR	03	0420E	0436D	0421U	S17	E07	.362	13043	3.7	16D	-N	3	C		.64				F
9 STATIONS REPORTING GROUP 60558. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60558	03	0801	0928	0840	S14	E08	.323	13043	3.9	87	2B				7.39				8 7 6 8
ATHN	03	0758	0911	0837	S15	E07	.331	13043	3.9	73	1B	3	V		2.31				DE
MONT	03	0759	0940	0836	S15	E08	.338	13043	3.9	101	1B		C	0836	5.16				
ARCE	03	0802E	0918		S15	E08	.338	13043	3.9	76D	3N		C	0840	17.68	18.00			KF
CATA	03	0805	0937	0832	S15	E09	.344	13043	4.0	92	2B	3		0832	5.21	5.55		(457)	
TEHR	03	0808E	0923D	0838	S13	E08	.308	13043	3.9	75D	1B	4	V		2.63				Z U
WEND	03	0822E	0934	0836	S13	E12	.342	13043	4.2	72D	2B		P	0836	11.34				
HURB	03	0836E	0930D	0838	S13	E05	.289	13043	3.7	54D	1B						3.25		D
HERS	03	0905E	0925	0905	S15	E07	.331	13043	3.9	20D	-B		S	0906	1.63	1.70	1.40		BE
60558	03	0759	0917	0809	S14	E08	.323	13043	3.9	78	*-N				1.01				4 4 3 7
ATHN	03	0758	0911	0809	S15	E07	.331	13043	3.9	73	-N	3	V		1.16				DE
ATHN	03	0758	0911	0800	S15	E07	.331	13043	3.9	73	-N	3	V		.66				DE
UPIC	03	0800	0805D	0803U	S16	E08	.353	13043	3.9	5D	-N			0803	1.05				
TEHR	03	0808E	0923D	0815	S13	E08	.308	13043	3.9	75D	-B	4	V		.83				Z U
HURB	03	0810E	0824D	0810	S12	E07	.286	13043	3.9	14D	-F						1.96		
GRP60559	(See in Unconfirmed List)																		
GRP60561	03	1220	1238	1225	S12	E04	.269	13043	3.8	18	--F				.68				4 4 4 6
BOUL	03	1219	1235	1223	S13	E03	.281	13043	3.7	16	-F		C	1223	.86	.86			
MONT	03	1221	1241	1223	S12	E04	.269	13043	3.8	20	-N		C	1223	.83				E
ATHN	03	1221	1231	1225	S10	E03	.232	13043	3.7	10	-N	1		1225	.52	.50			
RAMY	03	1227E	1246	1230	S13	E04	.285	13043	3.8	19D	-F	3	C		.52				DE
GRP60564	03	1401	1418	1403	S11	W01	.244	13043	3.5	17	--F				.20				4 4 3 7
MCMA	03	1359	1419	1401	S11	W03	.248	13043	3.4	20	-F		C	1401	.21	.20			D
BOUL	03	1401	1419	1403	S11	W02	.245	13043	3.4	18	-F		V	1403		.30			
MONT	03	1401	1417	1403	S10	W02	.229	13043	3.4	16	-F		C	1403	.21				
ATHN	03	1404	1417	1405	S10	E02	.229	13043	3.7	13	-F	1		1405	.17	.16			
GRP60565	03	1418	1438	1423	S17	E05	.353	13043	4.0	20	--F				.58				2 2 2 6
MONT	03	1417	1435	1421	S19	E01	.376	13043	3.7	18	-F		C	1421	.41				
BOUL	03	1418	1440	1425	S14	E08	.323	13043	4.2	22	-N		C	1425	.75	.76			
GRP60566	03	1453	1506	1457	S09	W46	.736	13030	30.2	13	-N				1.61				3 3 3 5
BOUL	03	1452	1509	1500	S09	W45	.725	13030	28.2	17	1N		C	1500	1.93	2.74			
MCMA	03	1453	1505	1456	S09	W46	.736	13030	28.2	12	-N		C	1456	1.03	1.50			E
MONT	03	1454	1503	1456	S09	W46	.736	13030	28.2	9	-N		C	1456	1.86				H
570 PALE	03	1811	1821D	1817	S10	W47	.750	13030	28.2	10D	--F	2	C		.45				3
GRP60571	03	1812	1847	1817	S14	E06	.310	13043	4.2	35	--F				1.27				2 2 2 3
PALE	03	1811	1833	1815	S14	E06	.310	13043	4.2	22	-F	2	C		.72				F
BOUL	03	1812	1900	1819	S13	E06	.295	13043	4.2	48	-N		C	1819	1.82	1.83			
GRP60572	03	2023	2045	2030	S14	E04	.301	13043	4.1	22	--F				.42				2 2 2 2
BOUL	03	2019	2049	2030	S13	E03	.281	13043	4.1	30	-F		C	2030	.43	.43			
MCMA	03	2026	2040		S14	E04	.301	13043	4.2	14	-N		P	2032	.41	.40			E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60573	03	2147	2205	2153	S10	W50	.782	13030	30.2	18	--F				.30				2 2 2 2
PALE	03	2147	21560	2153	S10	W49	.772	13030	28.2	90	-F	2	C		.27				F
BOUL	03	2152E	2205	2153	S10	W50	.782	13030	28.2	130	-F		C	2153	.32	.50			
574 BOUL	03	2208	2222	2210	S11	W07	.271	13043	3.4	14	--F		C	2210	.75	.76			3
576 BOUL	03	2324	2338	2329	S17	W02	.345	13043	3.8	14	--F		C	2329	.54	.54			2
577 BOUL	04	0004	0010	0005	S12	W07	.287	13043	3.5	6	--F		C	0005	.64	.65			3
GRP60578	04	0015	0032	0020	S14	E03	.300	13043	4.2	17	--F				.44				2 2 2 3
BOUL	04	0015	0032	0016	S13	E03	.283	13043	4.2	17	-F		C	0016	.43	.43			
PALE	04	0024E	00250	(024U	S14	E02	.297	13043	4.2	10	-F	2	C		.45				
579 BOUL	04	0101	0130	0106	S14	E00	.295	13043	4.0	29	--F		C	0106	1.39	1.39			2
GRP60580	04	0225	0245	0236	S09	W51	.791	13030	30.3	20	--F				.39				2 2 2 5
TEHR	04	0225E	02450	0237	S09	W51	.791	13030	28.3	200	-F	3	V		.50				F
PALE	04	0235E	02450	0235U	S09	W50	.780	13030	28.4	100	-F	2	C		.27				F
GRP60582	04	0308	0319	0311	S16	W04	.335	13043	3.8	11	--N				.47				3 3 3 5
TEHR	04	0306	0320	0307	S14	W03	.300	13043	3.9	14	-F	4	V		.25				F
VORO	04	0309	0316	0309	S17	W03	.349	13043	3.9	7	-B		C	0309	.81	.98		62	E
PALE	04	0310E	0322	0316U	S16	W05	.339	13043	3.8	120	-N	2	C		.36				F
6 STATIONS REPORTING GROUP 60585.					1 STATIONS OBSERVING AND NOT REPORTING.														
GRP60585	04	0648	0749	0654	S14	W05	.307	13043	3.9	61	1B				3.40				4 4 4 6
ATHN	04	0610	07200	0658	S12	W04	.270	13043	4.0	700	1B	3	C		2.48				F
ATHN	04	0610	07200	0615	S12	W04	.270	13043	4.0	700	-N	3	C		.50				F
KIEV	04	0645E	07050	0650	S15	W04	.319	13043	4.0	200	1B		C	0650	3.58	3.70		185	DI
CATA	04	0652	0800	0652	S15	W06	.328	13043	3.8	68	1B	3		0652	4.05	4.29		(513)	
ZURI	04	0655E	0737	0656	S15	W04	.319	13043	4.0	420	1B		P	0656	3.58	4.00			
60585	04	0809	0819	0810	S15	W07	.333	13043	3.8	10	*-F				.99				2 2 2 5
MONT	04	0806	08190	0807	S15	W09	.346	13043	3.7	130	-N		C	0807	.62				E
ATHN	04	0811	0818	0813	S15	W05	.323	13043	4.0	7	-F			0813	1.36	1.31			
60585	04	0704	0852	0747	S15	W06	.328	13043	3.8	108	*1N				2.66				3 1 1 5
MONT	04	0634E	0848	0759	S15	W04	.319	13043	4.0	1340	1B		C	0759	2.58				H
ARCE	04	0704E	0852		S15	W06	.328	13043	3.8	1080	1N		C	0706	2.66	2.70			
ATHN	04	0729E	0749	0734	S15	W04	.319	13043	4.0	200	-N	3	V		1.26				F
GRP60586	04	1145	1240	1159	S16	W06	.343	13043	4.0	55	1F				3.85				3 1 1 7
RAMY	04	1133E	12520	1138	S16	W06	.343	13043	4.0	790	-N	3	C		.65				F
KHAR	04	1145E	12400	1159	S16	W06	.343	13043	4.0	550	1F		C	1159	3.85	4.20			
ATHN	04	1219	1238	1221	S16	W08	.354	13043	3.9	19	-N			1221	.85	.80			
12 STATIONS REPORTING GROUP 60589.					2 STATIONS OBSERVING AND NOT REPORTING.														
GRP60589	04	1338	1442	1357	S16	W08	.354	13043	4.0	64	2B				7.65				8 8 8 12
ZURI	04	1320	1434	1358	S17	W08	.369	13043	4.0	74	2B		C	1358	6.95	7.50			
MCMA	04	1321E	1535	1356	S16	W07	.348	13043	4.0	1340	2B		C	1356	5.16	5.40			V
KHAR	04	1329E	15000	1357	S16	W08	.354	13043	4.0	910	3B		C	1357	22.00	24.20			H
BOUL	04	1339	1430	1357	S17	W08	.369	13043	4.0	51	2B		C	1357	8.57	8.64			
HUAN	04	1345	14170	1356	S16	W08	.354	13043	4.0	320	1B	1	P	1356	2.27	2.42			
MONT	04	1347	1448	1357	S15	W08	.339	13043	4.0	61	2B		C	1357	9.90				H
RAMY	04	1348	14380	1358	S16	W08	.354	13043	4.0	500	1B	4	C		4.18				U F
MEUD	04	1357E	13570		S16	W08	.354	13043	4.0		1N		C	1357	2.17	2.20			
MONT	04	1511	1529	1517	S15	W09	.346	13043	4.0	18	-N		C	1517	.62				E
60589	04	1312	1589	1326	S16	W07	.348	13043	4.0	117	*1N				.65				3 3 3 10
ATHN	04	1312E	1442	1323	S17	W06	.359	13043	4.1	900	-N	3	V		.50				DE
MCMA	04	1321E	1535	1328	S16	W07	.348	13043	4.0	1340	2B		C	1328	1.03	1.10			XZ
MEUD	04	1330E	13300		S16	W08	.354	13043	4.0		-N		C	1330	.41	.40			
60589	04	1338	1500	1414	S15	W07	.333	13043	4.0	90	*1B				4.00				3 2 2 13
CATA	04	1330	1505	1410	S16	W08	.354	13043	4.0	95	1B	3		1410	4.63	4.96		(324)	
LOCA	04	1417E	1455	1417	S14	W05	.307	13043	4.2	380	1N		V	1417	3.36	3.50			
UPIC	04	1433	1456		S16	W09	.361	13043	3.9	23	-N			1436	.85				BF
60589	04	1312	1442	1314	S17	W06	.359	13043	4.1	90	*-N				.50				2 1 1 8
ATHN	04	1312E	1442	1314	S17	W06	.359	13043	4.1	900	-N	3	V		.50				DE
MEUD	04	1344E	13460		S16	W08	.354	13043	4.0	20	-N		C	1346	.52	.50			
GRP60590	04	1641	1706	1646	S16	W08	.354	13043	4.1	25	-N				1.54				5 5 5 5
BOUL	04	1637	1700	1646	S15	W07	.333	13043	4.2	23	-N		C	1646	1.82	1.84			
PALE	04	1641E	1708	1646	S15	W09	.346	13043	4.0	270	-N	2	V		.77				F
ATHN	04	1641	1701	1646	S17	W08	.369	13043	4.1	20	-B	3	V		.99				DE
MCMA	04	1642	17210	1646	S16	W09	.361	13043	4.0	390	-N		C	1646	.77	.80			E
ZURI	04	1642	1700	1648	S15	W07	.333	13043	4.2	18	1N		C	1648	3.36	3.60			

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OBSERVATORY	OBSERVED UT DATE JULY	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
60590	04	1704	1724	1710	S17	W09	.375	13043	4.0	20	*-N				1.03				2 2 2 5
ATHN	04	1704	1722	1707	S17	W08	.369	13043	4.1	18	-N	1		1707	.34	.33			
BOUL	04	1704	1725	1712	S17	W09	.375	13043	4.0	21	-N		C	1712	1.71	1.74			
GRP60591	04	1725	1758	1733	S14	W08	.324	13043	4.1	33	--N				.82				4 4 4 6
PALE	04	1725	1739	1730	S13	W08	.309	13043	4.1	14	-N	2	V		.52				F
HUAN	04	1725E	1732D		S15	W07	.333	13043	4.2	7D	-F	1	P	1731	.31	.33			
BOUL	04	1726	1816	1735	S14	W07	.318	13043	4.2	50	-N		C	1735	1.50	1.51			
MCMA	04	1728E	1734D		S15	W10	.354	13043	4.0	6D	-B		P	1734	.93	1.00			E
GRP60592	04	1818	1857	1829	S17	W10	.382	13043	4.0	39	1N				3.11				5 5 5 5
MCMA	04	1816E	1836D		S17	W12	.397	13043	3.9	20D	1B		P	1836	1.86	2.00			E
BOUL	04	1818	1905	1828	S17	W09	.375	13043	4.1	47	1N		C	1828	4.18	4.23			
HUAN	04	1818	1850	1830U	S16	W12	.384	13043	3.9	32	-N	1	C	1830	1.24	1.33			
ZURI	04	1818	1830D	1828	S17	W10	.382	13043	4.0	12D	2F		P	1828	5.68	6.20			
PALE	04	1823E	1855	1829U	S17	W09	.375	13043	4.1	32D	1B	2	V		2.58				UDE
594 HJAN	04	1950E	2005		S16	W11	.375	13043	4.0	15D	--F	1	P	1956	.41	.44			E 2
GRP60595	04	2016	2036	2019	S17	W13	.405	13043	3.9	20	-F				.66				2 2 2 2
BOUL	04	2014	2044	2019	S17	W13	.405	13043	3.9	30	-F		C	2019	.98	.99			
HUAN	04	2017	2027	2019	S17	W13	.405	13043	3.9	10	-N	1	C	2019	.36	.39			
60595	04	2032	2245	2103	S16	W12	.384	13043	4.0	133	*1N				3.26				3 3 3 3
BOUL	04	2031	2300	2105	S17	W12	.397	13043	4.0	149	2N		C	2105	5.14	5.25			
HUAN	04	2032	2048D		S16	W13	.392	13043	3.9	16D	-N	1	P	2033	.52	.56			E
PALE	04	2039E	2125	2100U	S14	W12	.357	13043	4.0	46D	1B	2	C		3.25				U F
HUAN	04	2100E	2103D		S16	W13	.392	13043	3.9	3D	-N	1	P	2100	1.39	1.51			B
PALE	04	2221	2230	2225	S14	W11	.348	13043	4.1	9	-F	3	C		.55				DE
GRP60596	04	2313	2346	2320	S14	W13	.366	13043	4.0	33	--F				.82				2 2 2 2
BOUL	04	2312	2346	2321	S14	W13	.366	13043	4.0	34	-F		C	2321	.64	.66			
PALE	04	2313	2345	2319	S14	W13	.366	13043	4.0	32	-F	3	C		.99				F
GRP60597	05	0032	0044	0033	S11	W24	.467	13043	3.2	12	--F				.64				2 2 2 2
BOUL	05	0031	0046	0033	S11	W23	.454	13043	3.3	15	-F		C	0035	.64	.70			
PALE	05	0032	0042	0033	S11	W25	.480	13043	3.1	10	-F	3	C		.63				DE
GRP60598	05	0040	0055	0048	S16	W15	.412	13043	3.9	15	--F				.73				2 2 2 2
BOUL	05	0040	0055	0047	S16	W14	.403	13043	4.0	15	-F		C	0047	.64	.66			
PALE	05	0048E	0055	0049	S16	W15	.412	13043	3.9	7D	-F	3	C		.81				
GRP60599	05	0054	0124	0103	S15	W14	.390	13043	4.0	30	--F				1.48				2 2 2 2
BOUL	05	0048	0130	0103	S15	W13	.380	13043	4.1	42	-N		C	0112	1.61	1.65			
PALE	05	0059	0118	0103	S15	W14	.390	13043	4.0	19	-F	3	C		1.35				F
GRP60600	05	0148	0241	0155	S14	W15	.388	13043	4.0	53	-B				1.31				2 2 2 2
BOUL	05	0148	0205D	0156	S13	W13	.355	13043	4.1	17D	-B		C	0156	.96	.99			
PALE	05	0148E	0241	0154	S14	W16	.398	13043	3.9	53D	-N	3	V		1.65				U F
60600	05	0220	0302		S16	W16	.422	13043	3.9	42	*-F				.46				2 2 2 2
TEHR	05	0220E	0303D	0220U	S16	W15	.412	13043	4.0	43D	-N	3	V		.50				F
PALE	05	0256E	0301	0257	S16	W17	.432	13043	3.8	5D	-F	2	V		.41				DE
GRP60601	05	0701	0724	0703	S15	W23	.488	13043	3.6	23	-N				1.17				6 6 6 7
ATHN	05	0659	0718D	0703	S15	W21	.465	13043	3.7	19D	-N	3	C		.66				DE
HONT	05	0701	0719	0703	S17	W26	.540	13043	3.3	18	-N		C	0703	.62				E
TEHR	05	0701	0712	0705	S15	W22	.476	13043	3.6	11	-F	2	C		.19				F
WEND	05	0701E	0730		S13	W23	.470	13043	3.6	29D	1N		V		3.09				
ZURI	05	0702	0712	0702	S14	W21	.455	13043	3.7	10	-N		C	0702	1.69	1.90			
ARCE	05	0710E	0751D		S14	W23	.479	13043	3.6	41D	-F		C	0710	.76	.80			
GRP60602	05	0738	0755	0741	S16	W18	.442	13043	4.0	17	--N				.34				3 3 3 8
HONT	05	0736	0801	0740	S16	W18	.442	13043	4.0	25	-N		C	0740	.41				E
MEUD	05	0738	0750	0743	S16	W18	.442	13043	4.0	12	-F		C	0743	.31	.30			
CATA	05	0740	0755	0740	S17	W18	.453	13043	4.0	15	-B	3		0740	.29	.32		(25%)	
GRP60603	(See in Unconfirmed List)																		
GRP60607	05	1159	1235	1206	S15	W20	.453	13043	4.0	36	-N				1.22				7 7 6 8
HONT	05	1157	1311	1205	S15	W21	.465	13043	3.9	74	-N		C	1205	1.86				K
TEHR	05	1157E	1302	1159	S15	W18	.431	13043	4.1	65D	-N	4	V		.66				F
ATHN	05	1157	1222	1207	S16	W21	.475	13043	3.9	25	-N	3	C		.99				DE
RAMY	05	1158	1303	1210	S14	W21	.455	13043	3.9	65	-N	4	C		.65				F
ZURI	05	1158	1220	1204	S15	W21	.465	13043	3.9	22	1N		C	1204	2.10	2.40			
MCMA	05	1200E	1225D	1208	S17	W21	.485	13043	3.9	25D	-N		C	1208	1.03	1.10			E
BOUL	05	1203	1220	1206	S13	W19	.421	13043	4.1	17	-F		V	1206		1.60			

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OBSERV-ATORY	OBSERVED UT				LOCATION						DURA-TION	IM-POR-TANCE	OBS.			MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY		MIN.		COND.	TYPE		TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
60607	05	1222	1303	1236	S14	W22	.467	13043	3.9		41	*-N					1.26				10 10 10 12
RAMY	05	1158	1303	1237	S14	W21	.455	13043	3.9		65	-B	4	C			.74				F
TEHR	05	1200	1253	1239	S15	W22	.476	13043	3.8		53	-N	3	C			.91				F
HUAN	05	1220E	1304	1231	S15	W22	.476	13043	3.9		44D	-N	2	P		1231	.88	.99			
MEND	05	1220E	1306		S13	W21	.445	13043	3.9		46D	1N		P			4.13				
BOUL	05	1226	1305	1233	S14	W21	.455	13043	3.9		39	-N		C		1233	.86	.92			
ZURI	05	1228	1256	1234	S15	W21	.465	13043	3.9		28	-B		C		1234	1.26	1.40			
MCMA	05	1228E	1310	1237	S16	W23	.497	13043	3.8		42D	-N		C		1237	.83	.90			E
ATHN	05	1229E	1302	1234	S14	W22	.467	13043	3.9		33D	-N	3	V			.99				OE
KIEV	05	1236E	13000	1241	S14	W22	.467	13043	3.9		24D	-N		C		1241	1.00	1.10		60	OI
MERS	05	1239E	1306	1239	S14	W21	.455	13043	4.0		27D	-B		P		1240	1.04	1.20			E
GRP60609	05	1324	1338	1328	S16	W26	.532	13043	3.6		14	--N					.35				3 3 3 11
MONT	05	1323	1334	1326	S17	W29	.575	13043	3.4		11	-N		C		1326	.41				E
HUAN	05	1323	1338	1324	S15	W24	.500	13043	3.8		7	-N	2	C		1324	.31	.36			
BOUL	05	1325	1350	1333	S15	W26	.524	13043	3.6		25	-F		C		1333	.32	.36			
5 STATIONS REPORTING GROUP 60611. 4 STATIONS OBSERVING AND NOT REPORTING.																					
GRP60611	05	1353	1449	1417	S15	W23	.488	13043	3.9		56	-N					2.17				3 3 3 9
MEND	05	1353	1447		S14	W22	.467	13043	3.9		54	1N		V			5.16				
MCMA	05	1410E	1505D		S16	W23	.497	13043	3.9		55D	-N		C		1425	.52	.60			EH
ATHN	05	1415E	1434	1417	S14	W23	.479	13043	3.9		19D	-F	3	V			.83				F
60611	05	1404	1423	1409	S14	W25	.503	13043	3.7		19	*-F					.97				2 2 2 9
BOUL	05	1408	1433D	1410	S16	W22	.486	13043	3.9		33D	-F		C		1410	1.71	1.85			
RAMY	05	1407	1412	1407U	S12	W28	.526	13043	3.5		5	-F	4	C			.23				OE
GRP60612	05	1508	1613	1515	S15	W23	.488	13043	3.9		65	1B					4.10				11 11 10 11
ZURI	05	1458	1608	1512	S16	W23	.497	13043	3.9		78	1B		C		1512	3.78	4.40			
BOUL	05	1506	1605	1513	S14	W23	.479	13043	3.9		59	1B		V		1513		3.60			
MEND	05	1507E	1626	1520	S17	W22	.496	13043	4.0		79D	2B		P		1520	10.31				
RAMY	05	1507	15110	15110	S16	W23	.497	13043	3.9		4D	1B	4	V			2.15				U F
MCMA	05	1507E	16420	1517	S16	W23	.497	13043	3.9		95D	2B		C		1517	5.67	6.50			EF
HUAN	05	1507	1621	1518	S16	W24	.509	13043	3.8		74	1B	2	C		1518	2.53	2.92			
MONT	05	1508	16150	1511	S15	W24	.508	13043	3.8		67D	1B		C		1511	3.09				W
CATA	05	1510	16050	1517	S16	W24	.509	13043	3.8		55D	2B	3			1517	5.80	6.73		(501)	
ATHN	05	1510E	1558	1515	S14	W23	.479	13043	3.9		48D	1B	3	V			2.15				Z H
LOCA	05	1512	1600	1515	S15	W21	.465	13043	4.1		48	1N		V		1515	2.52	2.80			
MEUD	05	1513E	1610	1514	S15	W24	.500	13043	3.8		57D	1N		C		1514	2.99	3.30			
GRP60613	05	1634	1708	1640	S09	W73	.960	13030	30.2		26	--F					.35				2 2 2 5
BOUL	05	1632	1700	1640	S10	W71	.951	13030	28.4		28	-F		C		1640	.43	1.17			
MCMA	05	1636	16420		S08	W74	.964	13030	28.1		6D	-N		C		1641	.26	1.00			D
GRP60615	05	2016	2115	2035	S17	W27	.552	13043	3.8		59	--N					.75				3 2 2 4
PALE	05	2016	2055	2022	S14	W25	.503	13043	4.0		39	-F	3	C			.36				
MCMA	05	2036	21150	2048	S17	W27	.552	13043	3.8		39D	-N		C		2048	1.03	1.30			E
HUAN	05	2044E	21030		S17	W27	.552	13043	3.8		19D	-N	1	P		2051	.46	.56			E
GRP60618	05	2123	2322	2143	S15	W26	.524	13043	3.9		119	1B					4.90				5 5 5 5
BOUL	05	2118	2345	2142	S17	W26	.540	13043	3.9		147	2B		C		2152	5.89	6.56			
RAMY	05	2120E	22200	2144	S14	W27	.528	13043	3.9		60D	1B	3	V			3.09				U F
MCMA	05	2123	23260	2142	S16	W26	.532	13043	3.9		123D	2B		C		2142	8.77	10.00			FIXV
PALE	05	2132	2256	2142	S14	W26	.516	13043	3.9		84	1B	2	C			3.97				U F
HUAN	05	2149E	22240		S16	W26	.532	13043	4.0		35D	1B	1	P		2150	2.78	3.32			
GRP60619	05	2248	2313	2256	S10	W74	.965	13030	30.4		25	--F					.85				2 2 2 3
BOUL	05	2248	2313	2256	S09	W73	.960	13030	28.5		25	1F		C		2256	.86	2.47			
PALE	05	2249E	23090	2256	S10	W74	.965	13030	28.4		20D	-N	2	V			.83				OE
620 BOUL	05	2332	2350	2340	S09	W75	.969	13030	28.4		18	--F		C		2340	.21	.65			3
GRP60622	06	0034	0059	0039	S15	E03	.319	13051	6.2		25	--B					.72				2 2 2 3
VORO	06	0034	0059	0038	S14	E03	.303	13051	6.2		25	-B		C		0038	.81	.90		64	EJ
PALE	06	0040E	00400	0040	S15	E02	.317	13051	6.2			-N	2	C			.63				OE
623 BOUL	06	0035	0059	0049	S16	W39	.684	13043	3.1		24	--F		C		0049	.21	.27			2
624 PALE	06	0147E	01500	0148	S08	W75	.969	13030	28.4		3D	--F	2	C			.27				OE 3
GRP60633	06	0646	0658	0649	S17	W30	.587	13043	4.0		12	--N					.32				3 3 3 6
MONT	06	0646	0658	0648	S16	W32	.603	13043	3.9		12	-F		C		0648	.21				
MANI	06	0647E	06480	0647U	S17	W32	.610	13043	3.9		1D	-N	1			0647	.41	.52			
ATHN	06	0652E	0657	0653	S17	W27	.553	13043	4.3		5D	-N	4	V			.33				OE
GRP60634	06	0659	0711	0701	S15	W28	.549	13043	4.2		12	--N					.37				3 3 3 6
MANI	06	0658E	07020	0700	S14	W29	.553	13043	4.1		4D	-N	1			0700	.21	.25			
ATHN	06	0659	0709	0702	S16	W26	.533	13043	4.3		1D	-N	4	V			.50				OE
MONT	06	0700	0712	0702	S15	W29	.561	13043	4.1		12	-F		C		0702	.41				

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	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60635	06	0738	0815	0801	S15	W30	.573	13043	4.1	37	--N				.37				3 3 3 6
MONT	06	0736	0746	0741	S16	W42	.717	13043	3.2	10	-F		C	0741	.21				
ATHN	06	0738	0811	0800	S16	W26	.533	13043	4.4	33	-B	3	V		.66				DE
ATHN	06	0738	0811	0741	S16	W26	.533	13043	4.4	33	-N	3	V		.33				DE
MONT	06	0739	0746	0741	S15	W39	.679	13043	3.4	7	-F		C	0741	.21				
MONT	06	0759	0808	0801	S15	W29	.561	13043	4.2	9	-F		C	0801	.21				
TEHR	06	0802E	0825D	0802U	S13	W29	.547	13043	4.2	23D	-N	3	V		.25				DE
GRP60636	06	0815	0826	0817	S16	W28	.556	13043	4.2	11	--N				.52				2 2 2 5
MONT	06	0815	0824	0817	S15	W30	.573	13043	4.1	9	-F		C	0817	.21				
ATHN	06	0815	0827	0817	S16	W26	.533	13043	4.4	12	-B	4	V		.83				Z F
GRP60641	06	0957	1016	1006	S15	W29	.561	13043	4.2	19	--N				.37				3 3 3 5
MONT	06	0955	1015D	1005	S15	W30	.573	13043	4.2	20D	-N		C	1005	.41				D
ATHN	06	0958	1017	1005	S17	W28	.564	13043	4.3	19	-B			1005	.52	.53			
TEHR	06	1008E	1015	1008U	S14	W30	.566	13043	4.2	7D	-N	3	V		.17				DE
GRP60642	06	1036	1048	1038	S15	W31	.585	13043	4.1	12	-B				1.10				4 4 4 5
ATHN	06	1036	1046	1038	S17	W30	.587	13043	4.2	10	-B	4	V		.83				Z F
KHAR	06	1036E	1045D	1038	S16	W32	.603	13043	4.0	9D	1N		C	1038	1.65	2.10			
UPIC	06	1037E	1039D	1037U	S14	W32	.590	13043	4.0	2D	-N			1037	1.26				
TEHR	06	1037E	1049D	1038U	S13	W30	.559	13043	4.2	12D	-B	3	V		.66				DE
7 STATIONS REPORTING GROUP 60643. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60643	06	1054	1226	1112	S16	W35	.638	13043	3.8	92	1B				3.47				5 5 5 6
KHAR	06	1050E	1225D	1112	S17	W36	.656	13043	3.8	95D	2N		C	1121	8.80	11.80			EJ
TEHR	06	1053E	1150D	1110U	S15	W35	.633	13043	3.8	57D	1B	3	V		1.86				DE Z
MONT	06	1056E	1233	1113	S15	W35	.633	13043	3.8	97D	1N		C	1113	2.58				
ATHN	06	1057	1221	1113	S18	W34	.639	13043	3.9	84	1B	4	V		2.15				F
ATHN	06	1057	1221	1058	S18	W34	.639	13043	3.9	84	-F	4	V		.66				F
MONT	06	1106	1114	1108	S17	W32	.610	13043	4.1	8	-N		C	1108	.72				
RAMY	06	1110E	1112D	1112D	S16	W35	.638	13043	3.8	2D	1B	2	V		1.98				F U
60643	06	1115	1226	1132	S18	W35	.651	13043	3.8	71	*1B				2.68				3 2 2 7
CATA	06	1110	1230	1130	S15	W35	.633	13043	3.8	80	2B	3		1130	4.63	5.98		(372)	
MONT	06	1120	1221	1134	S21	W35	.670	13043	3.8	61	-N		C	1134	.72				
HUAN	06	1146E	1149D		S16	W36	.650	13043	3.8	3D	-N	1	P	1147	.31	.40			
GRP60647	06	1345	1357	1351	S15	W33	.609	13043	4.1	12	--N				.48				6 6 6 7
BOUL	06	1335	1358	1349	S14	W32	.590	13043	4.2	23	-N		C	1349	.75	.88			
RAMY	06	1347E	1358	1349	S13	W36	.634	13043	3.9	11D	-N	4	V		.33				DE
ATHN	06	1347	1357	1350	S17	W32	.610	13043	4.2	10	-N			1350	.34	.35			
MCMA	06	1348	1355	1351	S15	W32	.597	13043	4.2	7	-F		C	1351	.26	.30			D
CATA	06	1350	1400	1355	S13	W33	.597	13043	4.1	10	-B	3		1355	.29	.36		(263)	
KHAR	06	1351E	1356D	1351	S15	W33	.609	13043	4.1	5D	-F		V	1351	.88	1.20			D
GRP60648	06	1441	1453	1445	S15	W35	.633	13043	4.0	12	--F				.31				4 4 4 6
BOUL	06	1437	1500	1444	S14	W34	.615	13043	4.1	23	-F		C	1444	.32	.39			
KHAR	06	1440E	1445D	1445	S15	W36	.644	13043	3.9	5D	-F		V	1445	.33	.50			D
ATHN	06	1442	1450	1445	S17	W34	.633	13043	4.1	8	-N			1445	.34	.35			
MCMA	06	1443	1450	1447	S15	W34	.621	13043	4.1	7	-F		C	1447	.26	.30			D
GRP60649	06	1532	1554	1537	S15	W34	.621	13043	4.1	22	--F				.48				3 3 3 6
BOUL	06	1529E	1558	1535	S14	W34	.615	13043	4.1	29D	-F		C	1535	.96	1.16			
HUAN	06	1533	1537D	1535	S14	W34	.615	13043	4.1	4D	-F	1	P	1535	.21	.26			D
MCMA	06	1534	1549	1542	S16	W33	.615	13043	4.2	15	-F		C	1542	.26	.30			D
651 BOUL	06	1641	1659	1646	S14	W34	.615	13043	4.1	18	--F		C	1646	.54	.65			4
GRP60652	06	1713	1739	1736	S15	W35	.633	13043	4.1	26	--F				.34				3 3 3 6
BOUL	06	1708	1748	1736	S14	W35	.627	13043	4.1	40	-F		C	1736	.54	.66			
MCMA	06	1717	1730		S16	W34	.627	13043	4.2	13	-F		C	1725	.26	.30			D
HUAN	06	1726E	1728D		S14	W36	.639	13043	4.0	2D	-F	1	P	1727	.21	.27			D
5 STATIONS REPORTING GROUP 60653. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60653	06	1812	2015	1906	S16	W39	.684	13043	3.8	123	1B				3.00				3 3 3 3
BOUL	06	1812	2020	1906	S16	W37	.661	13043	4.0	128	1B		C	1906	3.75	4.70			
MCMA	06	1830E	2010	1906	S18	W40	.705	13043	3.8	100D	2B		C	1906	3.61	5.00			FKLIV
RAMY	06	1840E	1936D	1906	S15	W39	.679	13043	3.9	56D	-B	4	V		1.65				DE
60653	06	1830	2010	1845	S17	W40	.700	13043	3.8	100	*1B				1.67				2 2 2 3
MCMA	06	1830E	2010D	1845	S18	W40	.705	13043	3.8	100D	2B		C	1845	2.06	2.80			EH
RAMY	06	1840E	1936D	1844	S15	W39	.679	13043	3.9	56D	-B	4	V		1.28				DE

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg.	MAX. INT. %	
60653	06	1907	2018	1927	S16	W43	.728	13043	3.6	71	*-N				.54				3 2 1 5
BOUL	06	1907	2029	1927	S15	W45	.745	13043	3.4	82	-N		C	1927	.54	.76			
HUAN	06	1924E	19250		S16	W40	.695	13043	3.8	2D	1N	1	P						
PALE	06	1948E	19400	1940U	S15	W40	.690	13043	3.8		-F	2	C		.72				DE
PALE	06	1953E	2006	1953U	S15	W43	.724	13043	3.6	13D	-F	2	C		.55				DE
PALE	06	2016E	20210	2020U	S15	W39	.679	13043	3.9	5D	-F	2	V		.41				
60653	06	1819	1830	1824	S15	W38	.668	13043	3.9	11	*-F				.36				2 2 2 4
PALE	06	1817	1829	1823U	S14	W40	.686	13043	3.8	12	-F	2	C		.45				DE
HOMA	06	1828	18300	1825	S16	W35	.638	13043	4.1	10D	-F		C	1825	.26	.30			D
654 BOUL	06	1833	1847	1840	S12	W51	.798	13037	2.9	14	--F		C	1840	.75	1.20			3
	06	2232	2237	NO FLARE PATROL															
GRP60657	06	2252	2330	2259	S15	W42	.713	13043	3.8	38	--F				.52				2 2 2 2
MANI	06	2252E	2330	2258	S15	W42	.713	13043	3.8	38D	-N	1		2258	.62	.89			F
PALE	06	2300E	23040	2300U	S15	W41	.702	13043	3.9	4D	-F	2	V		.41				F
	06	2309	2312	NO FLARE PATROL															
	06	2334	2339	NO FLARE PATROL															
	06	2341	0045	NO FLARE PATROL															
	07	0107	0211	NO FLARE PATROL															
658 MANI	07	0211E	02260	0211U	S15	W43	.724	13043	3.9	15D	--N	1		0211	.41	.61			1
	07	0226	0301	NO FLARE PATROL															
GRP60660	07	0419	0429	0421	S17	W46	.764	13043	3.7	10	--F				.41				2 2 2 5
ATHN	07	0419	0432	0421	S17	W43	.733	13043	4.0	13	-N	2	C		.50				DE
PALE	07	0419	0426	0421	S17	W48	.784	13043	3.6	7	-F	2	V		.31				
GRP60662	07	0607	0628	0609	S11	W64	.909	13037	2.5	21	--F				.65				2 2 2 3
ABST	07	0606E	06100	0608	S12	W65	.917	13037	2.4	4D	-F		P	0608	.79	1.90			D
ATHN	07	0608	0628	0609	S09	W63	.899	13037	2.5	20	-N	3	C		.50				DE
663 ATHN	07	0704	0726	0708	S13	W57	.857	13037	3.0	22	--F	3	C		.33				DE 3
GRP60664	07	0724	0736	0727	S15	W44	.735	13043	4.0	12	--F				.70				3 3 3 3
ABST	07	0722	07340	0728	S15	W45	.746	13043	3.9	12D	-F		P	0728	.78	1.10			D
CATA	07	0725	0735	0725	S16	W46	.760	13043	3.9	10	-N	3		0725	.87	1.33		(200)	
ATHN	07	0726	0737	0729	S15	W41	.702	13043	4.2	11	-F	1		0729	.52	.55			
GRP60665	07	0807	1131		S16	W46	.760	13043	3.9	204	-N				1.32				3 3 3 7
ABST	07	0807	09440	0928	S16	W47	.770	13043	3.8	97D	1N		P	0928	2.44	4.00			FK
ATHN	07	0807	0815	C808	S15	W45	.746	13043	4.0	8	-N	1		0808	.52	.60			
ATHN	07	0857	0906	0858	S15	W43	.724	13043	4.1	9	-F	1		0858	.85	1.01			
TEHR	07	0916	12550	0932	S16	W45	.750	13043	4.0	219D	-B	3	C		.66				DE
ATHN	07	1124	1131	1125	S15	W48	.777	13043	3.9	7	-F	1		1125	.34	.41			
9 STATIONS REPORTING GROUP 60666. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60666	07	0920	1114	1014	S16	W47	.770	13043	3.9	114	1B				2.58				7 6 6 7
TEHR	07	0916	12550	1010	S16	W45	.750	13043	4.0	219D	1B	3	C		1.83				DE
KHAR	07	0917E	11170	1017	S15	W47	.767	13043	3.9	120D	2N		C	1017	4.40	7.30	.32		EK
CATA	07	0920	1115	1015	S16	W47	.770	13043	3.9	115	1B	3		1015	2.31	3.63		(390)	
MEUD	07	0926	1120	1009	S16	W47	.770	13043	3.9	114	1N		C	1009	1.75	2.70			
ATHN	07	0942	1109	0945	S15	W47	.767	13043	3.9	87	-N	1		0945	1.35	1.63			
ABST	07	1008E	10550	1009	S16	W48	.780	13043	3.8	47D	2N		P	1009	3.49	5.80		96	BFK
RAMY	07	1017E	1104	1022	S16	W45	.750	13043	4.1	47D	-B	3	C		1.67				DE
60666	07	1038	1120	1056	S18	W49	.797	13043	3.8	42	*-B				.77				2 1 1 9
HOMA	07	1038E	1120		S18	W49	.797	13043	3.8	42D	-B		C	1044	.77	1.20			D
KIEV	07	1053E	11200	1056	S18	W49	.797	13043	3.8	27D	1F		C	1056	1.50	2.50		59	DI
GRP60669	07	1155	1211	1200	S14	W48	.774	13043	3.9	16	-N				.58				2 2 2 8
MEUD	07	1152	1207	1158	S15	W48	.777	13043	3.9	15	-N		C	1158	.31	.50			
ATHN	07	1158	1215	1202	S13	W48	.771	13043	3.9	17	-N	1		1215	.85	1.07			
60669	07	1214	1348	1222	S16	W48	.780	13043	3.9	94	*1N				3.24				7 7 6 8
HOMA	07	1150	1355	1224	S18	W49	.797	13043	3.8	125	1N		C	1224	2.58	4.20			E
KHAR	07	1155E	13520	1223	S16	W48	.780	13043	3.9	117D	3N		C	1300	8.25	14.00			E
RAMY	07	1212	1344	1221	S17	W48	.784	13043	3.9	92	1N	3	C		2.17				UDE
MEUD	07	1214	1345	1222	S17	W48	.784	13043	3.9	91	1N		C	1222	2.27	3.40			
ATHN	07	1217	1235	1219	S13	W48	.771	13043	3.9	18	-B	1		1219	1.02	1.30			
BOUL	07	1220	1250	1223	S16	W50	.800	13043	3.8	30	1N		V	1223		3.36			
LOCA	07	1225E	1345	1225	S16	W46	.760	13043	4.1	80D	1N		V	1225	3.16	4.50			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP60670	07	1514	1525	1516	S14	W54	.832	13043	3.6	11	--F				.56				4 4 4 5
MCMA	07	1512	1615D	1514	S17	W54	.840	13043	3.6	63D	-N		C	1514	.41	.70			EK
MEUD	07	1513	1518	1514	S13	W54	.830	13043	3.6	5	-F		C	1514	.41	.70			
HUAN	07	1514E	1517D		S14	W55	.841	13043	3.5	3D	-F	1	P	1515	.41	.72			
ATHN	07	1518	1531	1520	S11	W54	.826	13043	3.6	13	-N	1		1520	1.02	1.37			
GRP60671	07	1653	1705	1657	S15	W50	.797	13043	4.0	12	--F				.37				2 2 2 5
PALE	07	1653E	1703D	1655	S15	W50	.797	13043	4.0	10D	-F	2	C		.27				DE
RAMY	07	1655E	1705D	1658U	S15	W50	.797	13043	4.0	10D	-F	3	V		.46				DE
4 STATIONS REPORTING GROUP 60673. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60673	07	1825	1851	1830	S15	W54	.835	13043	3.7	26	-N				1.06				4 4 3 4
MCMA	07	1820	1900D	1830	S17	W57	.865	13043	3.5	40D	1N		C	1830	1.03	2.00			E
RAMY	07	1825	1840D	1829	S14	W52	.814	13043	3.9	15D	-N	3	V		1.03				F
BOUL	07	1827	1847	1831	S14	W54	.832	13043	3.7	20	1N		V	1831		2.80			
PALE	07	1827E	1846	1830U	S15	W54	.835	13043	3.7	19D	-N	2	V		1.13				F
PALE	07	1853E	1906D	1855U	S17	W51	.813	13043	4.0	13D	-F	2	V		.93				F
673 PALE	07	1834E	1841	1834U	S14	W49	.784	13043	4.1	7D	*-N	2	V		.21				DE 3
	07	1907	1932	NO FLARE PATROL															
	07	1946	2014	NO FLARE PATROL															
	07	2029	2035	NO FLARE PATROL															
	07	2042	2143	NO FLARE PATROL															
GRP60675	07	2126	2143	2126	S16	W55	.846	13043	3.8	17	-N				1.03				2 1 1 2
PALE	07	2126E	2143	2126U	S16	W55	.846	13043	3.8	17D	-N	1	V		1.03				F
HUAN	07	2143E	2145D		S15	W58	.869	13043	3.6	2D	-F	1	P	2144	.41	.81			
	07	2145	2152	NO FLARE PATROL															
	07	2156	2205	NO FLARE PATROL															
	07	2316	2330	NO FLARE PATROL															
	08	0106	0112	NO FLARE PATROL															
	08	0135	0147	NO FLARE PATROL															
	08	0154	0237	NO FLARE PATROL															
GRP60681	08	0631	0646	0635	S15	W62	.900	13043	3.6	15	1N				1.55				2 2 2 4
ABST	08	0631	0644	0633	S14	W60	.883	13043	3.8	13	2N		C	0633	2.44	5.40		72	EJ
ATHN	08	0634E	0648	0637	S15	W64	.914	13043	3.5	14D	-N	3	V		.66				F
GRP60685	08	0957	1044	1005	S15	W61	.892	13043	3.8	47	-F				1.05				4 4 4 8
TEHR	08	0951	1040	1005	S16	W57	.863	13043	4.1	49	-F	4	C		.66				
ABST	08	0954	1015D	1002	S14	W65	.919	13043	3.5	21D	-F		P	1002	.87	2.00			DJ
MONT	08	0959	1004D	1004	S15	W61	.892	13043	3.8	5D	-N		C	1004	1.13				E
ABST	08	1000	1015D	1005	S15	W61	.892	13043	3.8	15D	1F		R	1005	1.75	4.00			EJ
ATHN	08	1005E	1048	1006	S15	W64	.914	13043	3.6	43D	-N	3	V		.66				F
ABST	08	1048	1134D	1051	S15	W63	.907	13043	3.7	46D	-F		P	1051	.87	2.00			D
60686	08	1027	1043	1030	S16	W61	.894	13043	3.9	16	*-N				.82				3 3 3 5
MEUD	08	1000	1045	1028	S15	W60	.885	13043	3.9	45	-F		C	1028	.41	.80			
ABST	08	1024E	1038D	1032	S16	W60	.887	13043	3.9	14D	1N		P	1032	1.75	3.80		74	D
CATA	08	1030	1040	1030	S17	W64	.917	13043	3.6	10	-B	3		1030	.29			(229)	
GRP60687	08	1229	1245	1232	S17	W62	.903	13043	3.9	16	-N				.70				8 8 7 8
TEHR	08	1227	1343	1233	S15	W58	.869	13043	4.2	76	-N	4	C		.91				F
MEUD	08	1228	1247	1232	S16	W62	.901	13043	3.9	19	-F		C	1232	.21	.40			
HUAN	08	1229	1246	1231	S16	W65	.922	13043	3.6	17	-N	1	C	1231	.36				
UPIC	08	1229	1244	1231	S16	W63	.908	13043	3.8	15	1B			1231	1.47				
MCMA	08	1229	1246	1230	S17	W62	.903	13043	3.9	17	-N		C	1230	.52	1.30			E
ATHN	08	1230E	1239	1232	S16	W60	.887	13043	4.0	9D	-N	3	V		.99				F
BOUL	08	1230E	1247E	1233	S19	W61	.899	13043	3.9	17D	-N		V	1233		2.00			
RAMY	08	1230	1247	1235	S17	W63	.910	13043	3.8	17	-N	2	C		.46				DE
GRP60689	08	1308	1327	1315	S14	W60	.883	13043	4.0	19	--N				.55				5 5 5 7
TEHR	08	1227	1343	1315	S15	W58	.869	13043	4.2	76	-N	4	C		.72				F
BOUL	08	1305	1324	1314	S14	W61	.891	13043	4.0	19	-N		C	1314	.54	1.10			
RAMY	08	1308	1328	1314	S15	W63	.907	13043	3.8	20	-F	2	C		.56				DE
MEUD	08	1310	1320	1316	S14	W58	.867	13043	4.2	10	-N		C	1316	.41	.80			
ATHN	08	1311	1320	1314	S14	W59	.875	13043	4.1	9	-N	1		1314	.52	.76			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH HG	MAX. INT. %	
GRP60690	08	1436	1453	1442	S08	E89	1.000	13057	15.3	15	-N				.35				5 5 4 6
MONT	08	1435	1447	1441	S09	E86	.998	13057	15.1	12	-N		C	1441	.21				D
BOUL	08	1435	1507	1441	S09	E89	1.000	13057	15.3	32	-F		C	1441	.21	.85			
HUAN	08	1439	1456	1442	S08	E88	1.000	13057	15.2	17	-N	2	C	1442	.31				
MCMA	08	1440	1446	1441	S07	E90	1.000	13057	15.4	6	-N		C	1441					D
ATHN	08	1442	1451	1443	S05	E90	1.000	13057	15.4	9	-N	1		1443	.68	1.94			
GRP60691	08	1453	1528	1501	S15	W65	.920	13043	3.7	35	--N				.34				2 2 2 5
MCMA	08	1452	1540D	1504	S17	W63	.910	13043	3.9	48D	-N		C	1504	.26	.60			D
MONT	08	1454	1516	1457	S13	W66	.924	13043	3.7	22	-N		C	1457	.41				E
GRP60692	08	1540	1610	1542	S18	W64	.918	13043	3.9	30	-B				.75				5 4 3 6
BOUL	08	1338	1555D	1542	S22	W64	.924	13043	3.8	137D	-N		V	1542		1.60			
MONT	08	1435	1443	1437	S15	W61	.892	13043	4.0	8	-F		C	1437	.21				
MCMA	08	1540	1620D	1541	S17	W63	.910	13043	3.9	40D	1B		C	1541	.83	2.10			EV
RAMY	08	1540	1601	1545	S16	W65	.922	13043	3.8	21	-B	2	C		.74				DE
HUAN	08	1540	1610	1540	S15	W63	.907	13043	3.9	30	-N	2	C	1540	.67	1.53			
GRP60693	08	1720	1745	1724	S09	E89	1.000	13057	15.4	25	--F				.34				2 2 2 5
BOUL	08	1720	1745D	1724	S09	E89	1.000	13057	15.4	25D	-N		C	1724	.21	.85			
HUAN	08	1721E	1744		S09	E88	1.000	13057	15.3	23D	-F	2	P	1730	.46				
GRP60694	08	1823	1838	1827	S16	W61	.894	13043	4.2	15	--F				.32				2 2 2 4
BOUL	08	1822	1843	1827	S14	W61	.891	13043	4.2	21	-F		C	1827	.32	.66			
PALE	08	1824	1833	1827	S17	W61	.896	13043	4.2	9	-N	3	C		.31				F
GRP60695	08	1954	2007	2001	S15	W63	.907	13043	4.1	13	--F				.35				2 2 2 3
BOUL	08	1948U	2010D	2002	S15	W62	.900	13043	4.2	22D	-N		C	2002	.43	.91			
HUAN	08	1959	2003	2000	S15	W63	.907	13043	4.1	4	-F	2	C	2000	.26				D
GRP60697	08	2224	2245	2226	S16	W68	.940	13043	3.8	21	--N				.44				2 2 2 2
PALE	08	2223	2245	2226	S15	W67	.933	13043	3.9	22	-N	3	C		.52				F
HUAN	08	2225	2225D		S16	W68	.940	13043	3.8		-N	1	P	2225	.36				E
	09	0140	0149	NO FLARE PATROL															
698 PALE	09	0149E	0215	0149U	S15	W69	.944	13043	3.9	26D	-B	3	V		.62				F U 1
GRP60700	09	0357	0403	0357	S16	W74	.969	13043	3.6	6	1N				.67				3 3 3 5
ABST	09	0356	0402	0357	S15	W73	.964	13043	3.7	6	1N		C	0357	1.05			74	DJV
TEHR	09	0357E	0400D	0357U	S15	W72	.960	13043	3.8	3D	-N	3	V		.25				DE
TACH	09	0358	0404	0358	S18	W78	.984	13043	3.3	6	1F		C	0358	.71			44	E
GRP60701	09	0520	0526	0521	S15	W69	.944	13043	4.0	6	1N				1.00				2 2 2 6
ABST	09	0520	0526	0521	S14	W70	.949	13043	4.0	6	1N		C	0521	.96			76	DV
MITK	09	0521E	0525D		S15	W68	.939	13043	4.1	4D	1N		P	0521	1.03				D
GRP60703	09	0538	0545	0541	S08	E78	.981	13057	15.1	7	-N				.62				3 3 3 4
ABST	09	0536	0545	0539	S09	E78	.981	13057	15.1	9	1N		C	0539	.87			69	DJ
TEHR	09	0539E	0545D	0540U	S07	E78	.980	13057	15.1	6D	-F	3	V		.33				
ATHN	09	0540	0545D	0543	S09	E77	.977	13057	15.0	5D	-N	1	C		.66				DE
GRP60704	09	0712	0736	0720	S15	W75	.973	13043	3.7	24	-N				.88				5 4 4 6
ABST	09	0632	0737D	0719	S15	W80	.989	13043	3.3	65D	1N		P	0719	.96			71	DJK
UPIC	09	0640E	0652		S15	W77	.980	13043	3.5	12D	-F			0640	.21				
MONT	09	0710	0735	0723	S15	W75	.973	13043	3.7	25	-N		C	0723	.62				E
ATHN	09	0713	0731D	0720	S14	W71	.954	13043	4.0	18D	-N	2	C		.66				DE
ATHN	09	0713	0731D	0714	S14	W71	.954	13043	4.0	18D	-N	2	C		.50				DE
LOCA	09	0716E	0737	0716	S15	W73	.964	13043	3.8	21D	1N		V	0716	1.26	4.80			
GRP60705	09	0825	0834	0826	S15	W75	.973	13043	3.7	9	-N				.81				3 3 3 5
ABST	09	0825	0836	0826	S14	W79	.986	13043	3.4	11	1N		C	0826	1.40			71	EJVZ
ZURI	09	0825	0832	0826	S16	W73	.965	13043	3.9	7	-N		C	0826	.63	2.40			
MONT	09	0825	0835	0826	S16	W72	.960	13043	4.0	10	-N		C	0826	.41				D
5 STATIONS REPORTING GROUP 60709. 4 STATIONS OBSERVING AND NOT REPORTING.																			
GRP60709	09	1033	1128	1109	S14	W76	.976	13043	3.7	55	-N				.95				3 3 3 10
MONT	09	1033E	1128D	1109	S15	W77	.980	13043	3.7	55D	-N		C	1109	1.13				E
ABST	09	1104E	1122D	1108	S13	W77	.979	13043	3.7	18D	1N		P	1108	1.40			72	FJ
TEHR	09	1104E	1122D	1110U	S15	W75	.973	13043	3.8	18D	-N	4	V		.33				F
60709	09	1045	1056	1048	S16	W71	.956	13043	4.1	11	*-N				.76				2 2 2 8
ZURI	09	1044	1052	1048	S16	W74	.969	13043	3.9	8	-N		C	1048	.84	3.40			
ATHN	09	1046	1059	1048	S15	W68	.939	13043	4.3	13	-N	1		1048	.68	1.21			

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	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.		TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60712	09	1354	1406	1359	S17	W74	.970	13043	4.0	12	-N				.75				7 7 6 8
BOUL	09	1348	1409	1358	S16	W72	.960	13043	4.2	21	1B		C	1358	.86	2.40			
HUAN	09	1355	1403	1358	S16	W74	.969	13043	4.0	8	-F	1	C						
ZURI	09	1356	1402D	1358	S16	W75	.973	13043	4.0	6D	-N		P	1358	.84	3.70			
MCMA	09	1356	1402	1358	S17	W76	.977	13043	3.9	6	1N		C	1358	.52	2.20			E
ATHN	09	1357E	1405	1359	S17	W71	.956	13043	4.3	8D	1B	3	V		1.16				F
RAMY	09	1400E	1408D	1401U	S17	W76	.977	13043	3.9	8D	-N	3	V		.46				DE
LOCA	09	1401E	1410	1401	S17	W71	.956	13043	4.3	9D	-N		V	1401	.63	1.80			
GRP60714	09	1446	1453	1448	S16	W75	.973	13043	4.0	7	-N				.45				3 3 2 6
BOUL	09	1443	1453	1448	S14	W74	.968	13043	4.1	10	-F		V	1448		1.10			
MCMA	09	1448	1450	1449	S17	W78	.984	13043	3.8	2	-N		C	1449	.21	1.20			D
ATHN	09	1448	1455	1448	S17	W73	.966	13043	4.1	7	-N	1		1448	.68	1.21			
GRP60717	09	1731	1740	1733	S15	W79	.986	13043	3.8	9	-B				.47				5 5 4 5
RAMY	09	1730	1740D	1732	S14	W78	.983	13043	3.9	10D	-B	3	V		.37				DE
BOUL	09	1731	1740	1734	S14	W77	.979	13043	4.0	9	-N		C	1734	.64	2.03			
HUAN	09	1732	1736	1733	S15	W80	.989	13043	3.7	4	-N	1	C	1733	.36				
PALE	09	1733E	1742	1733U	S16	W77	.980	13043	4.0	9D	-B	3	V		.52				DE
MCMA	09	1733E	1740		S17	W81	.991	13043	3.7	7D	1B		C	1734					
GRP60721	09	1853	1904	1855	S15	W79	.986	13043	3.9	11	-N				.47				5 5 4 5
BOUL	09	1853	1912D	1854	S15	W77	.980	13043	4.0	19D	-N		C	1854	.54	1.69			
RAMY	09	1853	1903	1855	S14	W79	.986	13043	3.9	10	-B	3	V		.31				DE
PALE	09	1853	1903	1855	S15	W78	.983	13043	3.9	10	-B	2	C		.63				DE
MCMA	09	1854	1901	1857	S17	W82	.993	13043	3.6	7	-N		C	1857					
HUAN	09	1854	1902	1855	S15	W80	.989	13043	3.8	8	-N	1	C	1855	.41				
	09	2215	2217	NO FLARE PATROL															
	09	2232	2237	NO FLARE PATROL															
723 PALE	09	2237E	2250	2239	S09	E70	.945	13057	15.2	13D	--F	2	C		.55				1
	09	2304	2310	NO FLARE PATROL															
724 PALE	09	2336E	2352	2339	S15	W85	.998	13043	3.6	16D	-B	3	V		.52				DE 1
GRP60726	10	0554	0623	0601	S17	W88	1.000	13043	3.6	29	1N				1.27				5 5 5 7
ABST	10	0552	0650	0557	S17	W90	1.000	13043	3.5	58	1N		C	0557	1.66				AFJK
MANI	10	0553E	0623D	0558	S18	W90	1.000	13043	3.5	30D	1N	2		0558	.72	2.35			F
ATHN	10	0556	0618	0603	S17	W88	1.000	13043	3.6	22	-B	3	C		.66				F
TACH	10	0559E	0611	0559	S15	W88	1.000	13043	3.6	12D	2F		V	0559	2.90			65	ET
MONT	10	0606E	0615	0609	S18	W85	.998	13043	3.9	9D	-N		C	0609	.41				D
GRP60730	10	1021	1044	1031	S16	W89	1.000	13043	3.8	23	--F				.50				2 2 2 4
MONT	10	1017	1041	1031	S18	W87	1.000	13043	3.9	24	-F		C	1031	.21				
ABST	10	1024	1046D	1030	S14	W90	1.000	13043	3.7	22D	1F		P	1030	.79				ADJ
GRP60732	10	1404	1421	1405	S10	E58	.861	13057	14.9	17	--F				.22				3 3 3 7
ATHN	10	1403E	1419D	1404	S13	E55	.840	13057	14.7	16D	-F	1	V		.17				F
MONT	10	1404	1421	1405	S09	E59	.868	13057	15.0	17	-F		C	1405	.21				
CATA	10	1405	1420	1405	S09	E60	.876	13057	15.1	15	-N	3		1405	.29	.60		(195)	
GRP60733	10	1515	1542	1522	S17	W90	1.000	13043	3.9	27	-N				.62				2 2 1 5
RAMY	10	1514	1545	1518	S17	W90	1.000	13043	3.9	31	-N	3	C						
MONT	10	1515	1538	1525	S17	W90	1.000	13043	3.9	23	-N		C	1525	.62				E
GRP60734	10	1611	1616	1612	S09	E56	.841	13057	14.9	5	--F				.27				2 2 2 4
ATHN	10	1608	1619	1612	S10	E57	.852	13057	14.9	11	-N	3	C		.33				F
ATHN	10	1610E	1618	1611	S13	E54	.831	13057	14.7	8D	-N	3	V		.17				F
HUAN	10	1611	1614	1612	S07	E57	.847	13057	14.9	3	-F	1	C	1612	.21	.40			D
736 PALE	10	1855	1910	1856	S05	E54	.816	13057	14.8	15	--F	2	C		.55				F 3
GRP60738	11	0405	0423	0410	S13	W74	.968	13051	5.6	18	--F				.39				2 2 2 6
TEHR	11	0404	0422	0410	S14	W75	.972	13051	5.5	18	-F	3	C		.45				
ATHN	11	0406	0424	0409	S12	W72	.958	13051	5.8	18	-F	3	C		.33				DE
	11	2208	2227	NO FLARE PATROL															
	12	0038	0046	NO FLARE PATROL															
	12	0049	0053	NO FLARE PATROL															
	12	0140	0159	NO FLARE PATROL															

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	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY		MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP60741	12	0943	0956	0947	S09	E34	.592	13057	15.0		13	--F		C	0946	.89				2 2 2 5
MONT	12	0943	0956	0946	S08	E34	.587	13057	15.0		13	-F		C	0946	.62				
ATHN	12	0944E	0956	0948	S10	E33	.584	13057	14.9		12D	-F	4	V		1.16				DE
GRP60742	12	1127	1137	1130	S13	E67	.931	13063	17.5		10	--F				.37				2 2 2 7
MONT	12	1126	11300	1129	S13	E66	.925	13063	17.4		4D	-N		C	1129	.41				E
ATHN	12	1128	1137	1130	S13	E67	.931	13063	17.5		9	-F	4	C		.33				DE
GRP60743	12	1335	1342	1338	S13	E65	.919	13063	17.4		7	--F				.27				5 5 5 7
BOUL	12	1333	1346	1338	S13	E67	.931	13063	17.6		13	-F		C	1338	.32	.79			
CATA	12	1335	1345	1340	S15	E66	.928	13063	17.5		10	-N	1		1340	.29			(178)	
ATHN	12	1336	1338	1337	S13	E65	.919	13063	17.4		2	-N	4	C		.33				DE
MCMA	12	1336	1342	1337	S09	E62	.892	13063	17.2		6	-F		C	1337	.21	.40			D
HUAN	12	1336	1340	1338	S13	E66	.925	13063	17.5		4	-F	2	C	1338	.21				D
	12	2116	2135	NO FLARE PATROL																
	12	2148	2200	NO FLARE PATROL																
	12	2212	2230	NO FLARE PATROL																
	13	0100	0146	NO FLARE PATROL																
	13	0205	0210	NO FLARE PATROL																
	14	2208	2219	NO FLARE PATROL																
752 HUAN	15	2024	2027	2025	S13	E19	.432	13063	17.3		3	--F	2	C	2025	.21	.23			D 2
GRP60753	15	2039	2056	2050	S13	E20	.444	13063	17.4		17	--F				.24				2 2 2 2
HUAN	15	2039	2056	2047	S13	E19	.432	13063	17.3		17	-F	2	C	2047	.21	.23			D
PALE	15	2053E	20560	2053U	S13	E20	.444	13063	17.4		30	-F	2	C		.27				DE
	15	2204	2205	NO FLARE PATROL																
GRP60754	16	0544	0601	0548	S11	E14	.355	13063	17.3		17	--F				.83				2 2 2 4
ATHN	16	0544	05580	0547	S10	E13	.332	13063	17.2		14D	-N	2	V		.83				F
MANI	16	0545E	0601	0548	S12	E14	.367	13063	17.3		16D	-F	2		0548	.83	.88			F
GRP60756	16	0752	0804	0757	S12	E15	.377	13063	17.5		12	--F				.64				4 4 4 9
UPIC	16	0751	0805	0755	S14	E16	.412	13063	17.5		14	-F			0755	.42				
MANI	16	0752	07580	0758U	S12	E15	.377	13063	17.5		6D	-F	2		0758	.72	.78			F
MONT	16	0753	08010	0755	S12	E16	.388	13063	17.5		8D	-N		C	0755	.93				D
TEHR	16	0757E	0802	0758	S12	E15	.377	13063	17.5		5D	-N	4	V		.50				F
UPIC	16	0800	0805	0800	S12	E15	.377	13063	17.5		5	-F			0800	.42				
	16	2128	2137	NO FLARE PATROL																
	16	2209	2231	NO FLARE PATROL																
	16	2328	2332	NO FLARE PATROL																
	16	2339	0000	NO FLARE PATROL																
	17	0004	0012	NO FLARE PATROL																
	17	0016	0030	NO FLARE PATROL																
	17	0040	0141	NO FLARE PATROL																
	17	0147	.0210	NO FLARE PATROL																
	17	0220	0230	NO FLARE PATROL																
759 PALE	17	0257E	02580	0258U	S05	W33	.564	13057	14.6		1D	--F	1	C		.55				DE H 3
GRP60760	17	0436	0451	0441	S11	E02	.269	13063	17.3		15	--F				.51				2 2 2 5
ATHN	17	0436	0450	0441	S11	E03	.272	13063	17.4		14	-F	3	C		.50				DE
PALE	17	0437E	04510	0440	S11	E01	.268	13063	17.3		14D	-F	1	V		.52				DE
GRP60763	17	1330	1344	1336	S17	E38	.685	13067	20.4		14	--F				.34				5 5 5 7
ATHN	17	1324	1345	1336	S16	E38	.691	13067	20.4		21	-F	3	C		.33				DE
BOUL	17	1324	13450	1337	S15	E38	.674	13067	20.4		21D	-F		C	1337	.43	.54			
MONT	17	1333	1344	1336	S21	E37	.699	13067	20.3		11	-N		C	1336	.41				EH
RAMY	17	1333	1345	1335	S15	E39	.686	13067	20.5		12	-F	4	C		.21				DE H
HUAN	17	1335	1340	1337	S15	E38	.674	13067	20.4		5	-F	2	C	1337	.31	.42			

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	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY		MIN.				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60765	17	1705	1735	1710	S13	W82	.993	13068	11.6		30	--F				.31				2 2 2 4
BOUL	17	1705	1743U	1707	S13	W81	.991	13068	11.6		380	-F		C	1707	.21	.72			
PALE	17	1711E	1727	1712U	S12	W83	.995	13068	11.5		160	-F	2	V		.41				
	17	2143	2318	NO FLARE PATROL																
	17	2322	0046	NO FLARE PATROL																
	18	0131	0138	NO FLARE PATROL																
	18	0217	0237	NO FLARE PATROL																
GRP60767	18	1447	1459	1452	S11	W15	.368	13063	17.5		12	--F				.60				5 5 5 7
HUAN	18	1446	1457	1453	S10	W14	.345	13063	17.6		11	-F	2	C	1453	.31	.33			
MONT	18	1447	1501	1451	S11	W15	.368	13063	17.5		14	-N		C	1451	1.13				
MCMA	18	1448	1500	1453	S12	W14	.369	13063	17.6		12	-N		C	1453	.52	.50			E
ATHN	18	1448	1457	1452	S11	W15	.368	13063	17.5		9	-F	3	V		.66				DE
RAMY	18	1448	1502	1452	S11	W16	.379	13063	17.4		14	-F	3	C		.37				DE
GRP60769	18	2012	2020	2013	S11	W18	.403	13063	17.5		8	--F				.26				2 2 2 3
PALE	18	2012	2018	2013	S10	W19	.405	13063	17.4		6	-F	3	V		.21				DE
MCMA	18	2019E	2022D		S12	W17	.402	13063	17.6		30	-N		P	2022	.31				DL
GRP60772	19	0301	0344	0327	S11	W20	.428	13063	17.6		43	--N				.72				2 2 2 4
MANI	19	0301	0344	0327	S12	W20	.438	13063	17.6		43	-N			0327	.62	.68			
MANI	19	0301	0344	0307	S12	W20	.438	13063	17.6		43	-F	2		0307	.83	.91			F
VORO	19	0329E	0338D		S10	W20	.419	13063	17.6		9D	-N		P	0329	.81	.90	32.95	57	D
775 PALE	19	2010	2026	2013	N06	E73	.954	13079	25.3		16	--F	2	C		.52				DE 3
GRP60778	20	0805	0825	0814	S12	E02	.291	13067	20.5		20	--F				.46				2 2 2 4
TEHR	20	0805	0822	0810	S12	E02	.291	13067	20.5		17	-F	3	C		.25				
ATHN	20	0816E	0827	0817U	S11	E02	.274	13067	20.5		11D	-F	3	V		.66				F
	20	2252	2350	NO FLARE PATROL																
	20	2400	0002	NO FLARE PATROL																
	21	0013	0037	NO FLARE PATROL																
	21	0455	0500	NO FLARE PATROL																
	21	0523	0558	NO FLARE PATROL																
783 ARCE	21	0935E	1000D		S10	W58	.863	13063	17.0		25D	--F		C	0940	.51	.90			3
784 MCMA	21	1215	1226	1220	S03	W60	.870	13064	17.0		11	--F		C	1220	.31				D 3
GRP60787	22	1055	1132		S14	E25	.518	13088	24.3		37	--F				.38				2 2 2 6
KHAR	22	1053E	1153D	1123	S15	E24	.516	13088	24.3		60D	-F		C	1123	.55	.70			T
MONT	22	1056	1110	1101	S13	E24	.498	13088	24.3		14	-F		C	1101	.21				
KHAR	22	1107E	1153D	1123	S15	E26	.539	13088	24.4		46D	1F		C	1123	1.80	2.10			T
GRP60788	22	1443	1459	1444	S14	E24	.507	13088	24.4		16	--F				.62				3 3 2 8
MONT	22	1441	1501	1443	S14	E23	.495	13088	24.3		20	-N		C	1443	.62				E
MEUD	22	1443	1450	1443	S14	E23	.495	13088	24.3		7	-F		C	1443	.62	.70			
BOUL	22	1444	1505	1447	S13	E26	.522	13088	24.6		21	-F		V	1447		.40			
GRP60789	22	1612	1630	1620	S14	W79	.987	13062	16.8		18	--F				.28				2 2 1 4
HUAN	22	1612	1629	1620U	S14	W82	.994	13062	16.5		17	-F	1	C						
RAMY	22	1615E	1631	1619	S13	W75	.973	13062	17.1		16D	-F	2	C		.28				DE
	22	1805	1812	NO FLARE PATROL																
	22	1818	1848	NO FLARE PATROL																
	22	1859	1902	NO FLARE PATROL																
	22	1908	1915	NO FLARE PATROL																
	22	1929	1939	NO FLARE PATROL																
	22	1942	1945	NO FLARE PATROL																
	22	1955	1956	NO FLARE PATROL																
	22	2002	2011	NO FLARE PATROL																
	22	2056	2103	NO FLARE PATROL																

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	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg.	MAX. INT. %	
	22	2104	2109	NO FLARE PATROL															
790 PALE	22	2142	2149D	2144U	S03	W78	.979	13064	17.1	7D	--F	2	C		.55				F 1
	22	2159	2200	NO FLARE PATROL															
791 PALE	22	2202	2213	2205U	S01	W80	.985	13063	16.9	11	--F	2	C		.27				F 2
792 PALE	23	0033	0039D	0034	S11	W31	.570	13067	20.7	6D	--F	2	C		.27				F 4
795 UPIC	23	0550	0600	0555	S17	W32	.623	13067	20.8	10	--F			0555	.63				3
	23	1813	1829	NO FLARE PATROL															
GRP60800	23	1829	1845	1831	S08	E44	.717	13084	27.1	16	--N				.72				3 3 3 3
PALE	23	1829E	1831D	1831U	S08	E43	.705	13084	27.0	2D	-F	2	C		.45				
RAMY	23	1830E	1831D	1831U	S08	E46	.740	13084	27.2	1D	-N	2	C		.65				DE
BOUL	23	1831E	1845	1832	S07	E44	.714	13084	27.1	14D	-N		C	1832	1.07	1.50			
	23	1831	1835	NO FLARE PATROL															
	23	1953	2005	NO FLARE PATROL															
GRP60801	23	2230	2249	2232	S15	E04	.349	13088	24.2	19	-N				1.20				3 2 2 6
PALE	23	2230	2246	2232	S14	E05	.337	13088	24.3	16	-N	3	C		1.54				DE
BOUL	23	2230E	2242	2232	S15	E02	.344	13088	24.1	12D	-N		C	2232	.86	.86			
MANI	23	2247E	2300	2247U	S16	E06	.372	13088	24.4	13D	-F	2		2247	.83	.88			
GRP60802	23	2317	2343	2318	S15	E06	.357	13088	24.4	26	--N				.54				2 2 2 4
PALE	23	2317	2343	2318U	S14	E05	.337	13088	24.3	26	-N	1	C		.45				F
MANI	23	2318E	2338D	2318U	S16	E06	.372	13088	24.4	20D	-N	2		2318	.62	.66			F
GRP60805	24	0019	0103	0036	S16	E48	.788	13084	27.6	44	--F				.50				2 2 2 5
PALE	24	0019	0058	0036U	S20	E47	.794	13084	27.5	39	-F	2	C		.45				F
VORO	24	0042E	0107		S12	E48	.774	13084	27.6	25D	-N		C	0046	.54	.90	4.65	58	EJ
GRP60807	24	0142	0157	0144	S15	E04	.350	13088	24.4	15	--F				.36				2 2 2 4
PALE	24	0142	0156	0144	S14	E03	.332	13088	24.3	14	-F	2	C		.19				F
MANI	24	0143E	0157D	0143U	S16	E05	.370	13088	24.4	14D	-N	2		0143	.52	.55			F
814 MANI	24	2255E	2307	2256U	S13	W10	.353	13088	24.2	12D	--F	1		2256	.31	.33			2
GRP60818	25	1540	1555	1548	S11	E22	.458	13084	27.3	15	--F				.54				2 2 1 5
BOUL	25	1532	1600	1547	S11	E21	.446	13084	27.2	28	-F		C	1547	.54	.58			
HUAN	25	1547	1550	1549	S11	E22	.458	13084	27.3	3	-F	1	C						
GRP60821	25	2100	2115	2105	S08	E12	.306	13084	26.8	15	--F				.32				3 3 3 3
BOUL	25	2059	2122	2105	S08	E13	.318	13084	26.8	23	-F		C	2105	.54	.55			
PALE	25	2059	2118	2104	S09	E11	.308	13084	26.7	19	-F	3	C		.21				
HUAN	25	2101	2106	2106U	S08	E13	.318	13084	26.9	5	-F	1	C	2106	.21	.22			D
GRP 60824	(See in Unconfirmed List)																		
60824	26	0647	0729	0708	S15	E51	.814	13101	30.1	42	*-F				1.81				2 2 2 6
ATHN	26	0644	0726	0655	S16	E49	.798	13101	30.0	42	1F	3	C		1.82				F S
TEHR	26	0658	0732	0704	S13	E53	.826	13101	30.3	42	-N	4	V		1.80				Z F
TEHR	26	0650	0732	0659	S13	E53	.826	13101	30.3	42	-N	4	V		.83				Z F
GRP60829	26	1428	1441	1431	S10	E39	.666	13095	29.5	13	--N				.51				6 5 5 8
ATHN	26	1433	1438D	1407	S11	E40	.682	13095	29.6	27D	-F	2	C		.17				DE
ATHN	26	1405E	1412	1406U	S12	E40	.687	13095	29.6	7D	-F	3	V		.50				DE
CATA	26	1425	1435	1425	S12	E39	.675	13095	29.5	10	-B	3		1425	.87	1.17		(209)	
HEUD	26	1428	.1440	1431	S11	E38	.658	13095	29.5	12	-F		C	1431	.41	.50			
HUAN	26	1429	1445	1431	S09	E41	.686	13095	29.7	16	-N	2	C	1431	.26	.35			D
ZURI	26	1430	1440	1434	S10	E38	.654	13095	29.5	10	-F		C	1434	.53	.70			
RAMY	26	1435E	1443	1435U	S10	E39	.666	13095	29.5	8D	-N	4	C		.46				DE
832 HUAN	26	1827	1840	1834	S09	E37	.637	13095	29.5	13	--F	1	C	1834	.21	.27			D 3
GRP60833	26	2123	2137	2126	S18	W40	.717	13088	23.9	14	--F				.37				4 4 4 4
RAMY	26	2122	2140	2126	S18	W41	.727	13088	23.8	18	-F	4	C		.52				DE
HUAN	26	2123	2133	2127	S19	W42	.743	13088	23.7	10	-N	1	C	2127	.31	.47			
MCMA	26	2125E	2127D		S18	W34	.654	13088	24.3	2D	-F		P	2126	.21	.30			D
PALE	26	2125E	2129D	2125U	S18	W41	.727	13088	23.8	4D	-N	3	C		.45				F
GRP60834	26	2225	2243	2233	S10	E35	.617	13095	29.6	18	-N				.92				3 3 3 5
HUAN	26	2225	2231D		S09	E36	.624	13095	29.6	6D	-N	1	P	2230	.31	.39			E
PALE	26	2228E	2242D	2235U	S11	E34	.610	13095	29.5	14D	-N	2	C		.81				F
MANI	26	2228E	2243	2238	S11	E36	.634	13095	29.6	15D	1B	1		2230	1.65	2.13			H

Hα SOLAR FLARES
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OBSERV-ATORY	OBSERVED UT				LOCATION						DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY		MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60837	27	1953	2001	1955	S09	W07	.275	13084	27.3		8	--N				.47				3 3 2 3
HUAN	27	1953	1959	1954	S09	W07	.275	13084	27.3		6	-F	1	C						
PALE	27	1953E	2003	1956	S09	W06	.268	13084	27.4		10D	-N	2	V		.62				F
MCMA	27	1954	2000	1955	S09	W08	.283	13084	27.2		6	-N		C	1955	.31	.30			D
	27	2143	2149	NO FLARE PATROL																
	27	2209	2220	NO FLARE PATROL																
	27	2224	2229	NO FLARE PATROL																
	27	2332	2348	NO FLARE PATROL																
GRP60839	28	1709	1727	1713	S13	E27	.538	13101	30.7		18	--N				.82				5 5 5 6
BOUL	28	1707	1744	1713	S12	E26	.518	13101	30.7		37	-F		C	1713	1.39	1.55			
PALE	28	1708	1719	1712	S13	E28	.550	13101	30.8		11	-N	3	C		.72				DE
MCMA	28	1709	1730	1712	S13	E26	.526	13101	30.7		21	-B		C	1712	.52	.60			E
HUAN	28	1710	1721	1713	S12	E27	.530	13101	30.7		11	-F	1	C	1713	.46	.55			E
MEUO	28	1711E	1722		S13	E26	.526	13101	30.7		11D	-N		C	1713	1.03	1.20			
840 BOUL	28	2053E	2110D	2055U	S16	E65	.926	13109	2.7		17D	-N		V	2055		1.90			2
	28	2151	2219	NO FLARE PATROL																
	28	2243	2250	NO FLARE PATROL																
	28	2345	2352	NO FLARE PATROL																
	29	0459	0500	NO FLARE PATROL																
	29	2200	2217	NO FLARE PATROL																
844 RAMY	29	2225	2230D	2229U	S10	W04	.276	13095	29.6		5D	--F	2	C		.93				F 2
	29	2230	2232	NO FLARE PATROL																
	29	2255	2347	NO FLARE PATROL																
	29	2350	2355	NO FLARE PATROL																
845 BOUL	30	0125	0133	0130	S10	W43	.714	13084	26.8		8	--F		C	0130	.21	.29			2
GRP60846	30	0817	0900	0834	S10	W11	.327	13095	29.5		43	-N				1.81				5 5 5 7
TEHR	30	0803	0847D	0835	S12	W11	.354	13095	29.5		44D	-N	3	C		.36				F
ARCE	30	0812E	0850D		S08	W11	.301	13095	29.5		38D	1N		C	0837	2.28	2.40			
MONT	30	0819	0907	0827	S10	W11	.327	13095	29.5		48	-N		C	0827	1.13				
CATA	30	0820	0900	0840	S10	W11	.327	13095	29.5		40	-N	3		0840	1.16	1.22		(182)	
WEND	30	0821E	0853		S10	W11	.327	13095	29.5		32D	1F		V		4.13				
MONT	30	0903	0952D	0912	S10	W09	.309	13095	29.7		49D	-N		C	0912	1.86				
GRP60848	30	1843	1917	1850	S12	W17	.413	13095	29.5		34	--F				.31				3 2 2 5
PALE	30	1841E	1909	1847	S12	W17	.413	13095	29.5		28D	-F	3	C		.36				DE
BOUL	30	1844E	1930D	1904	S15	W17	.448	13095	29.5		46D	-F		C	1904	.21	.22			
MCMA	30	1845	1925	1853	S12	W17	.413	13095	29.5		40	-F		C	1853	.26	.30			
GRP60850	30	2045	2053	2049	S15	W03	.356	13101	30.6		8	--N				.84				2 2 2 2
MCMA	30	2045	2053D		S15	W03	.356	13101	30.6		8D	-N		C	2048	.41	.40			E
PALE	30	2046E	2052D	2049	S14	W02	.337	13101	30.7		6D	-N	3	C		1.27				DE
	30	2127	2134	NO FLARE PATROL																
	30	2145	2210	NO FLARE PATROL																
	30	2225	2234	NO FLARE PATROL																
	30	2236	2242	NO FLARE PATROL																
	30	2310	2318	NO FLARE PATROL																
	31	0003	0007	NO FLARE PATROL																
	31	0010	0012	NO FLARE PATROL																
	31	0020	0026	NO FLARE PATROL																
	31	0248	0257	NO FLARE PATROL																
	31	0405	0420	NO FLARE PATROL																

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MOUNTH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60852	31	0734	0743	0735	S10	W22	.453	13095	29.7	9	--F				.67				4 4 4 5
UPIC	31	0730	0741	0735	S09	W21	.432	13095	29.7	11	-F			0735	.85				
MONT	31	0734	0743	0736	S11	W21	.458	13095	29.7	9	-F		C	0736	.21				
BUCA	31	0735	0748		S07	W23	.442	13095	29.6	13	-F		C	0738	.78	.90			
ATHN	31	0735E	0741	0735U	S11	W21	.450	13095	29.7	6D	-F	3	V		.83				F
GRP60853	31	0919	0933	0921	S09	W25	.484	13095	29.5	14	--N				.92				7 7 7 7
BUCA	31	0915	0950		S09	W21	.432	13095	29.8	35	-F		C	0920	1.66	1.80			
MONT	31	0919	0931	0921	S09	W24	.471	13095	29.6	12	-N		C	0921	.41				DH
CATA	31	0920	0935	0920	S08	W26	.490	13095	29.4	15	-B	3		0920	.58	.66		(257)	
ATHN	31	0920E	0938	0922U	S09	W25	.484	13095	29.5	18D	-N	3	V		.66				F H
ZURI	31	0920E	0926	0920	S08	W26	.490	13095	29.4	6D	-N		P	0920	.84	.90			
MEUD	31	0920	0932	0922	S10	W27	.517	13095	29.4	12	-N		C	0922	.41	.50			
KHAR	31	0920E	0927D		S08	W27	.503	13095	29.4	7D	1N		P	0920	1.90	2.20	.18		COH
GRP60855	31	1917	2035	1925	S11	W65	.919	13084	26.9	78	1F				1.76				2 2 2 5
BOUL	31	1917E	2035D	1925	S11	W64	.912	13084	27.0	78D	2F		C	1925	3.21	7.26			
PALE	31	1922E	19290	1925U	S10	W65	.918	13084	26.9	7D	-F	2	V		.31				H

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note:
A line of explanation has been added before each flare event having more than one maxima. The total number of stations reporting some part of the event is given. The number of stations observing at the time of the principal maximum but not reporting the event is given in the second statement. Care should be exercised in utilizing the numbers in the remarks column. The first number is the number of stations reporting the individual maximum, and not the total number of stations reporting some part of the flare event. The last number is the number of stations reporting at the time of the individual maximum and not necessarily the total number of stations observing during the flare event. GRP numbers may appear several times in order to indicate secondary maxima. An asterisk beside an importance indicates a secondary maximum. The word "GRP" has also been omitted to aid in pointing to this condition.
When it is impossible to determine the time of Maximum Phase from the individual reports the time of Area Measurements is used. This time appears in parentheses. For Flares reported by only one station the last 3 digits of the group number appear to the left of the station code.

In the importance column "--" signifies the subflare has been confirmed by the NOAA grouping program but is not included in the I.A.U. Quarterly Bulletin on Solar Activity. These subflares are also not included in the Flare Index below.

DAILY FLARE INDICES

Date	Flare Index	HR OBS	Date	Flare Index	HR OBS	Date	Flare Index	HR OBS
740701	87.40	22.9	740711	0.00	23.7	740721	0.00	22.9
740702	112.62	23.9	740712	0.00	22.7	740722	0.00	22.6
740703	467.37	24.0	740713	0.00	23.1	740723	7.60	23.5
740704	513.97	24.0	740714	0.00	23.7	740726	21.76	24.0
740705	264.43	24.0	740715	0.00	24.0	740727	0.00	23.4
740706	117.44	22.7	740716	0.00	22.9	740728	0.85	23.3
740707	57.63	19.9	740717	0.00	19.1	740729	0.00	22.7
740708	25.19	23.0	740718	0.00	23.5	740730	17.29	23.1
740709	31.88	23.6	740720	0.00	23.0	740731	16.35	23.4
740710	10.54	24.0						

When no Flare Index is given, it is 0 for that day.

Hα SOLAR FLARES
Unconfirmed
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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
501 MANI	01	0530E	0535D	0530U	S11	W10	.293	13030	28.5	5D	-F	2		0530	.41	.43			3
505 MONT	01	0741	0759	0744	S13	E36	.631	13043	4.0	18	-N		C	0744	.62				E 5
506 ATHN	01	0749	0801	0750	S31	E15	.598	13037	2.5	12	-F	1		0750	.52	.53			5
510 ABST	01	1003	1007	1004	S10	W12	.302	13030	28.5	4	-F		C	1004	.87	.90			E 5
514 MONT	01	1209	1214	1212	S08	W16	.330	13030	28.3	5	-F		C	1212	.21				4
516 MONT	01	1404	1447	1412	S13	E31	.568	13043	3.9	43	-N		C	1412	.72				E 6
524 MANI	02	0147	0156	0149	S14	E21	.452	13043	3.6	9	-F	2		0149	.31	.34			F 3
526 MANI	02	0337E	0359D	0338	S15	E24	.497	13043	4.0	22D	-N	2		0338	.31	.35			5
527 ATHN	02	0411	0418	0414	S03	W75	.967	13028	24.5	7	-F	3	C		.17				DE 5
533 MONT	02	0730	0736	0731	S11	W27	.504	13030	28.3	6	-F		C	0731	.21				9
534 MANI	02	0747E	0758D	0747U	S11	W28	.517	13030	28.2	11D	-F	2		0747	1.03	1.21			F 9
536 MANI	02	0836E	0848D	0848U	S11	W29	.531	13030	28.2	12D	-F	2		0848	1.03	1.22			F 11
537 ABST	02	0904	0911	0906	S09	W29	.519	13030	28.2	7	-F		C	0906	1.05	1.30			D 10
539 MONT	02	1034	1040	1035	S13	E24	.480	13043	4.2	6	-F		C	1035	.21				8
540 MONT	02	1103	1116	1106	S15	E20	.450	13043	4.0	13	-N		C	1106	.62				E 6
GRP60544	02	1716	1737	1723	S15	E15	.396	13043	3.8	21	-F				1.84				2 2 2 6
ZURI	02	1711	1747	1719	S14	E16	.394	13043	3.9	36	1N		C	1719	3.16	3.40			
ATHN	02	1720	1727	1727	S15	E14	.386	13043	3.8	7	-F	1		1727	.52	.50			
545 ZURI	02	1800	1815	1806	S15	E14	.386	13043	3.8	15	-N		C	1806	1.47	1.60			5
549 MANI	03	0131	0148	0138	S11	W38	.647	13030	28.2	17	-N	2		0138	.52	.69			3
553 MANI	03	0300	0310D	0308	S10	W39	.656	13030	28.2	10D	-F	2		0308	.52	.69			F 4
GRP60554	03	0300	0413	0353	S14	E10	.338	13043	3.9	73	-F				.84				2 2 2 6
MANI	03	0300	0425D	0353	S15	E08	.338	13043	3.7	85D	-N			0353	1.34	1.42			
ATHN	03	0348	0400	0352	S12	E11	.319	13043	4.0	12	-F	2	C		.33				DE
555 MONT	03	0649	0653	0650	S17	E12	.396	13043	4.2	4	-F		C	0650	.21				6
556 MONT	03	0725	0733	0727	S17	E12	.396	13043	4.2	8	-F		C	0727	.41				7
557 MONT	03	0740	0748	0742	S10	E01	.227	13043	3.4	8	-F		C	0742	.21				7
* GRP60559	03	0944	1007	0946	S15	E09	.344	13043	4.1	23	-N				1.48				4 4 4 7
MONT	03	0942	1012	0945	S15	E08	.338	13043	4.0	30	-N		C	0945	1.13				E
TEHR	03	0943E	1012D	0945	S14	E09	.330	13043	4.1	29D	-N	4	V		1.84				F
ATHN	03	0944	0955	0946	S15	E09	.344	13043	4.1	11	-F	1		0946	1.21	1.43			
CATA	03	0945	1010D	0948	S16	E10	.366	13043	4.2	25D	-B	3		0948	1.73	1.86		(263)	
560 MONT	03	1111	1123	1115	S10	W37	.631	13030	28.7	12	-N		C	1115	.41				E 7
562 MONT	03	1253	1313	1258	S15	E08	.338	13043	4.1	20	-F		C	1258	.41				6
563 MONT	03	1308	1324	1318	S08	W41	.674	13030	28.5	16	-F		C	1318	.21				7
567 ATHN	03	1513	1528	1516	S11	E05	.258	13043	4.0	15	-N	1		1516	.52	.50			5
568 BOUL	03	1721	1735	1725	S13	W03	.281	13043	3.5	14	-F		C	1725	.75	.75			4
569 BOUL	03	1740	1747	1743	S05	W51	.784	13030	27.9	7	-F		C	1743	.43	.68			4
575 PALE	03	2244E	2246D	2244U	S11	W48	.764	13030	28.3	2D	-F	2	V		.31				3
581 MANI	04	0255E	0306D	0255U	S10	W52	.803	13030	28.2	11D	-N	1		0255	.62	1.01			4
GRP60583	04	0334	0350	0337	S10	W53	.813	13030	30.2	16	-F				.53				2 2 2 6
ATHN	04	0334	0350	0337	S09	W54	.821	13030	28.1	16	-F	1	C		.33				F
MANI	04	0337E	0348D	0337U	S10	W52	.803	13030	28.3	11D	-F	1		0337	.72	1.18			
584 TEHR	04	0345E	0401D	0349	S14	W01	.296	13043	4.1	16D	-F	3	V		.25				F 5
586 MONT	04	0759	0800	0759	S10	W54	.823	13030	28.3	1	-F		C	0759	.21				4

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Hα SOLAR FLARES
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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60587	04	1105	1123	1113	S15	W06	.328	13043	4.0	18	-B				1.43				2 2 2 7
ATHN	04	1105	1123	1112	S15	W07	.333	13043	3.9	18	-B	3	V		.99				F
ATHN	04	1105	1123	1109	S15	W07	.333	13043	3.9	18	-F	3	V		.50				F
MONT	04	1112E	1347	1114	S15	W05	.323	13043	4.1	155D	-N		C	1114	1.86				B
593 HUAN	04	1936E	1940D		S17	W11	.389	13043	4.0	4D	-F	1	P	1937	.31	.33			3
*GRP60603	05	0857	0907	0859	S16	W19	.453	13043	3.9	10	-F				.46				2 2 2 10
ATHN	05	0856	0858D	0858	S16	W18	.442	13043	4.0	2D	-N	3	C		.50				DE
MONT	05	0858	0904	0859	S15	W16	.418	13043	4.2	6	-F		C	0859	.41				
ATHN	05	0859	0910	0859U	S17	W22	.496	13043	3.7	11	-N	3	V		.33				DE
ATHN	05	0859	0910	0859U	S17	W22	.496	13043	3.7	11	-N	3	V		.33				DE
GRP60604	05	0930	0947	0934	S17	W18	.453	13043	4.0	17	-N				.69				2 2 2 8
ZURI	05	0928	0944	0934	S17	W18	.453	13043	4.0	16	-N		C	0934	.85	.90			
MONT	05	0931	0949	0934	S16	W18	.442	13043	4.0	18	-N		C	0934	.52				E
605 MONT	05	1016	1039	1019	S16	W18	.442	13043	4.1	23	-F		C	1019	.41				8
606 MONT	05	1035	1044	1039	S10	W69	.940	13030	28.3	9	-F		C	1039	.21				8
608 BOUL	05	1315	1330	1319	N09	E69	.932	13050	10.7	15	-F		C	1319	.54	1.39			11
GRP60610	05	1338	1419	1408	N08	E71	.944	13050	10.9	41	-F				.64				2 2 2 10
BOUL	05	1338	1430	1410	N08	E70	.938	13050	10.8	52	-F		C	1410	.86	2.31			
MONT	05	1403	1407	1405	N08	E71	.944	13050	10.9	4	-F		C	1405	.41				
614 BOUL	05	1756	1845	1802	S14	W22	.467	13043	4.1	49	-F		C	1802	1.82	1.96			4
615 BOUL	05	1923	1935	1926	S27	W24	.617	13043	4.0	12	-F		C	1926	.32	.35			5
617 PALE	05	2028	2038	2032	S15	E03	.318	13051	6.1	10	-F	3	V		.41				H 3
621 PALE	06	0029E	0033	0031	S14	W26	.517	13043	4.1	4D	-F	2	C		.36				DE 4
625 PALE	06	0203E	0210D	0204U	S14	E00	.299	13051	6.1	7D	-F	2	V		.52				DE 3
626 PALE	06	0225E	0241D	0229	S14	E00	.299	13051	6.1	16D	-F	2	V		.41				DE 3
GRP60627	06	0303	0324	0303	S10	W76	.974	13030	30.4	21	-N				.62				2 1 1 6
PALE	06	0303E	0324D	0303U	S10	W76	.974	13030	28.4	21D	-N	2	V		.62				DE
MANI	06	0314E	0321D	0314U	S10	W78	.981	13030	28.3	7D	-F	1		0314	.52	1.30			F
628 MANI	06	0422E	0429D	0424U	S17	W27	.553	13043	4.2	7D	-F	2		0424	.41	.50			F 7
629 MANI	06	0454	0458	0454	S17	W30	.587	13043	4.0	4	-F	2		0454	.31	.38			5
630 MANI	06	0537	0540D	0540U	S14	W01	.299	13051	6.2	3D	-F	2		0540	.31	.32			F 6
631 MANI	06	0549E	0603D	0549U	S17	W32	.610	13043	3.8	14D	-F	2		0549	.41	.52			5
GRP60632	06	0623	0639	0626	S15	W28	.549	13043	4.2	16	-N				.19				2 2 2 6
MANI	06	0623E	0642D	0623U	S14	W29	.553	13043	4.1	19D	-N	1		0623	.21	.25			
ATHN	06	0628E	0635	0629	S16	W26	.533	13043	4.3	7D	-N	4	V		.17				DE
637 MANI	06	0859E	0908D	0902	S14	W29	.553	13043	4.2	9D	-N	1		0902	.21	.25			6
638 MANI	06	0912E	0925D	0913	S14	W36	.639	13043	3.7	13D	-N	2		0913	.41	.54			FZ 6
639 MANI	06	0918E	0925D	0925U	S17	W33	.622	13043	3.9	7D	-N	2		0924	.62	.79			6
640 ATHN	06	0939	0953	0941	S16	W27	.545	13043	4.4	14	-B			0941	.52	.53			6
644 MONT	06	1120	1127	1122	S14	W47	.763	13037	2.9	7	-F		C	1122	.62				6
645 MONT	06	1141	1146	1143	S10	W86	.998	13030	28.0	5	-F		C	1143	.21				7
GRP60646	06	1253	1303	1254	S17	W32	.610	13043	4.1	10	-F				.17				2 1 1 8
ATHN	06	1253	1303	1254	S17	W32	.610	13043	4.1	10	-F			1254	.17	.18			
BOUL	06	1302	1320	1307	S15	W33	.609	13043	4.1	18	-F		C	1307	.32	.38			
650 HUAN	06	1600	1604	1600	S14	W36	.639	13043	4.0	4	-F	2	C	1600	.21	.27			D 6
655 PALE	06	2052	2057D	2053	S13	W44	.727	13043	3.6	5D	-F	2	V		.41				DE 4
656 PALE	06	2104E	2110	2105	S13	W39	.670	13043	4.0	6D	-F	2	V		.31				DE 4

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60659	07	0310	0320	0310	S13	W43	.717	13043	3.9	10	-N				.41				1 1 1 3
MANI	07	0310E	0320D	0310U	S15	W43	.724	13043	3.9	10D	-N	1		0310	.41	.61			F
MANI	07	0310E	0320D	0310U	S11	W44	.721	13043	3.8	10D	-N	1		0310	.41	.59			F
661 ABST	07	0440	0516D	0446	S12	W48	.768	13043	3.6	36D	1F		P	0446	1.75	2.80			E 4
667 ATHN	07	0942	1009	0942	S10	W60	.877	13037	2.9	27	-F	1		0942	.34	.47			7
GRP60568	07	1135	1147	1143	S16	W48	.780	13043	3.9	12	-F				.29				2 2 2 8
MEUD	07	1133	1148	1142	S15	W48	.777	13043	3.9	15	-N		C	1142	.21	.30			
RAMY	07	1136	1145	1143	S17	W47	.774	13043	4.0	9	-F	3	C		.37				F
672 RAMY	07	1720E	1735D	1723	S14	W51	.804	13043	3.9	15D	-N	3	V		.77				U 3
674 PALE	07	1931E	1932D	1931U	S14	W50	.794	13043	4.1	1D	-F	1	V		.21				DE 3
676 ABST	08	0519	0524	0520	S17	W65	.923	13043	3.3	5	-F		C	0520	.79				D 6
677 ATHN	08	0525E	0537	0525U	S16	W62	.901	13043	3.6	12D	-F	2	V		.50				F 6
678 ATHN	08	0535E	0545	0535U	S13	W60	.882	13043	3.7	10D	-F	2	V		.66				F 6
679 ABST	08	0537	0610	0544	S11	W75	.970	13037	2.6	33	1F		C	0544	.87				DJ 6
680 ABST	08	0555	0604	0556	S14	W65	.919	13043	3.4	9	-F		C	0556	.79				DJV 8
682 ABST	08	0656	0712	0658	S11	W77	.978	13037	2.5	16	1F		C	0658	.87				D 6
GRP60583	08	0800	0805	0800	S16	W56	.855	13043	4.1	5	-N				.67				2 2 2 6
ABST	08	0759	0804	0800	S15	W56	.852	13043	4.1	5	-N		C	0800	1.05	2.00			DJV
CATA	08	0800	0805	0800	S16	W56	.855	13043	4.1	5	-N	3		0800	.29	.55		(19)	
684 ABST	08	0832E	0910	0835	S14	W63	.905	13043	3.6	38D	1F		P	0835	1.14	2.60			FJ 6
685 ABST	08	0848	0934	0859	S11	W80	.987	13037	2.4	46	1F		C	0859	.79				DJ 7
688 BOUL	08	1250E	1332	1302	S07	E90	1.000	13057	15.3	42D	-F		C	1302	.11	.43			8
695 BOUL	08	1855	1908	1859	S14	W61	.891	13043	4.2	13	-F		C	1859	.32	.66			4
699 ABST	09	0348E	0412D	0349	S09	E79	.984	13057	15.1	24D	1N		P	0349	.87			65	BDJ 5
702 ABST	09	0528	0532	0529	S13	W75	.971	13043	3.6	4	1F		C	0529	.96				EV 6
706 MONT	09	0832	0844	0837	S16	E90	1.000	13062	16.1	12	-F		C	0837	.21				6
707 MONT	09	0859	0909	0904	S16	W73	.965	13043	3.9	10	-F		C	0904	.21				5
708 MONT	09	0916	0925	0921	S15	W76	.976	13043	3.7	9	-F		C	0921	.41				4
710 RAMY	09	1140E	1150D	1143	S17	W75	.974	13043	3.9	10D	-B	3	V		.33				DE 3
711 BOUL	09	1223E	1245	1225	S15	W76	.976	13043	3.8	22D	-N		V	1225		1.20			6
713 ATHN	09	1437	1441	1437	S08	E69	.939	13057	14.8	4	-F	1		1437	.17	.29			6
715 MCMA	09	1521	1530	1523	S17	W79	.987	13043	3.7	9	-F		C	1523	.21	1.20			D 6
716 BOUL	09	1630	1636	1634	S15	W77	.980	13043	3.9	6	-F		C	1634	.32	1.01			7
718 BOUL	09	1747	1753	1748	S17	W80	.989	13043	3.7	6	-F		C	1748	.21	.72			5
719 BOUL	09	1810	1835	1812	S15	W81	.991	13043	3.7	25	-F		C	1812	.43	1.45			5
720 BOUL	09	1833	1850	1839	S09	E73	.961	13057	15.2	17	-F		C	1839	.32	.92			4
722 PALE	09	2053	2107	2059	S16	W90	1.000	13043	3.1	14	-N	2	C		.36				5
725 ABST	10	0450	0500	0454	S14	W90	1.000	13043	3.5	10	1F		C	0454	.20				ADJ 4
727 MONT	10	0702	0706	0704	S09	E62	.892	13057	14.9	4	-N		C	0704	.21				D 5
728 MONT	10	0744	0747	0745	S11	E87	.999	13062	16.8	3	-F		C	0745	.21				6
729 ABST	10	0849	0853	0850	S10	E66	.922	13057	15.3	4	-F		C	0850	.87				DJV 5
731 MONT	10	1322	1326	1323	S17	W90	1.000	13043	3.8	4	-F		C	1323	.21				8
735 BOUL	10	1628	1648	1632	S06	E50	.776	13057	14.4	20	-F		C	1632	.21	.34			6

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. HER. DIST.	CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY					TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
737 PALE	11	0306E	0312	0308	S13	W67	.931	13051	6.1	60	-F	2	C		.36				DE 5
739 MANI	11	0426E	0458	0435	S01	E17	.304	13059	12.5	320	-F	1		0435	.52	.54			F 6
740 MONT	11	0731	0741	0734	S19	W90	1.000	13043	4.6	10	-F		C	0734	.41				6
744 ABST	14	0628	06370	0633	S12	E90	1.000	13067	21.0	90	1F		P	0633	.79				ADJ 4
745 ABST	14	0649E	07110	0652	S14	E90	1.000	13067	21.0	220	1F		P	0652	.96				ADJ 5
746 CATA	14	0935	1000	0940	S12	E90	1.000	13067	21.1	25	2N	3		0940	.58			(150)	5
747 ABST	15	0558E	07070	0613	S13	E78	.983	13067	21.1	690	1F		P	0613	.87				DJK 5
748 UPIC	15	1050	1105	1055	S14	E73	.964	13067	20.9	15	-F			1055	.42				8
749 MONT	15	1153	1156	1155	S08	W10	.273	13057	14.7	3	-F		C	1155	.21				8
750 RAMY	15	1226	12550	1235	S13	E25	.504	13063	17.4	290	-F	3	C		.31				DE 6
751 HUAN	15	1520	1526	1522	S13	E23	.480	13063	17.4	6	-F	2	C	1522	.31	.36			5
755 MANI	16	0610E	0620	0615U	S12	E15	.377	13063	17.4	100	-F	2		0615	.72	.78			F 4
GRP60757	16	0838	0900	0839	S12	E14	.367	13063	17.4	22	-N				.97				2 2 2 8
ARCE	16	0837	0900	0837	S12	E16	.388	13063	17.6	23	-N		C	0837	1.27	1.40			H
ATHN	16	0838	08480	0841	S12	E12	.347	13063	17.3	100	-N	3	C		.66				F
758 ARCE	16	0905	09150	0910	S11	E14	.355	13063	17.4	100	-F		C	0910	.83	.80			10
761 MONT	17	0949	1000	0952	S04	W86	.998	13068	11.0	11	-F		C	0952	.21				5
762 MONT	17	1257	1331	1310	S04	W88	1.000	13068	10.9	34	-N		C	1310	.41				D 9
764 BOUL	17	1443	1504	1448	S14	W81	.991	13068	11.5	21	-F		C	1448	.43	1.45			6
766 CATA	18	1150	1200	1150	S11	W14	.357	13063	17.4	10	-B	3		1150	.58	.62		(209)	6
768 BOUL	18	1842	1846	1843	S11	W16	.379	13063	17.6	4	-F		C	1844	.43	.45			4
770 BOUL	18	2025	2100	2026	S11	W21	.440	13063	17.3	34	-F		V	2026		.25			3
771 MANI	19	0000E	0015	0002U	S12	W18	.414	13063	17.6	150	-F	1		0002	.83	.89			F 3
773 ATHN	19	0441E	0449	0444	S05	W25	.451	13064	17.3	80	-F	3	V		.66				DE 4
774 BOUL	19	1401	1407	1403	S10	W31	.562	13063	17.3	6	-F		C	1403	.43	.50			6
776 PALE	20	0226E	02300	0226U	S10	W38	.651	13063	17.3	40	-N	2	V		.46				F 4
777 ATHN	20	0748E	0753	0748U	N05	E64	.897	13079	25.1	50	-F	3	V		.33				DE 3
779 MCMA	20	1600	1612	1604	S06	W46	.733	13064	17.2	12	-N		C	1604	.41				E 5
780 RAMY	20	1600	1618	1605	S07	W47	.747	13063	17.1	18	-F	4	C		.46				DE 5
781 CATA	20	1620E	1630	1620	S07	W46	.736	13063	17.2	100	-N	3		1620	.58	.85		(200)	5
782 MCMA	20	1932	19400	1935	S04	W50	.774	13064	17.1	80	-F		C	1935	.31				4
785 MANI	21	2243E	22550	2247	S13	E32	.594	13088	24.3	120	-N	1		2247	.62	.77			F 5
786 KODA	22	0435	0502	0443	S13	E29	.558	13088	24.4	27	-B		V	0435			1.52		E 4
793 KODA	23	0312	0330	0322	S02	W90	1.000	13063	16.4	18	1N		V	0312			1.60		D 7
794 KODA	23	0342	0351	0342	S10	E14	.350	13088	24.2	9	-B		V	0342			2.28		D 5
796 UPIC	23	0810	0830U	0815	S13	E14	.387	13088	24.4	200	-F			0815	1.26				8
797 RAMY	23	1031	1052		S03	W87	.999	13063	16.9	21	-N	3	C						DE 5
798 RAMY	23	1224	1234		S03	W88	1.000	13063	16.9	10	-N	3	C						DE 5
799 UPIC	23	1446E	1450U		S14	E10	.366	13088	24.4	40	-F			1446	1.26				7
803 PALE	23	2335E	2349	2335U	S17	E43	.741	13084	27.2	140	-F	2	C		.36				F 5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JULY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP60804	24	0004	0031	0009	S15	E05	.354	13088	24.4	27	-F				.49				2 2 2 6
PALE	24	0002	0021D	0008U	S15	E04	.350	13088	24.3	19D	-F	1	C		.45				F
MANI	24	0005	0031	0010	S15	E05	.354	13088	24.4	26	-F	2		0010	.52	.55			F
806 MANI	24	0109	0125	0110	S15	E05	.354	13088	24.4	16	-F	2		0110	.52	.55			F 6
808 PALE	24	0146	0154	0147	S13	E42	.713	13084	27.2	8	-F	2	V		.26				DE 3
809 MANI	24	0454E	0510	0455U	S16	E02	.362	13088	24.4	16D	-F	2		0455	.31	.33			6
810 MONT	24	0743	0746	0744	S07	E37	.628	13084	27.1	3	-F		C	0744	.41				5
811 MONT	24	0757	0800	0758	S07	E37	.628	13084	27.1	3	-F		C	0758	.21				5
812 MONT	24	0927	0935D	0935	N12	E32	.535	13094	26.8	8D	-F		C	0935	.21				G 7
813 ATHN	24	1201E	1206	1201U	S01	E18	.325	13089	25.9	5D	-F	4	V		.50				DE 6
815 ATHN	25	0505	0512	0508	S07	E22	.425	13084	26.9	6	-F	4	V		.50				DE 3
816 ATHN	25	0827	0839	0831	S12	E24	.491	13084	27.2	12	-F	4	V		.66				DE 6
817 HJAN	25	1325	1330	1327	S11	E23	.470	13084	27.3	5	-F	1	C	1327	.31	.35			8
819 BOUL	25	1757	1806	1800	S18	E61	.902	13101	30.3	9	-F		C	1800	.32	.65			6
820 PALE	25	1757	1806	1803	S13	E22	.476	13084	27.4	9	-F	3	C		.72				U 5
822 BOUL	25	2303	2311	2305	S17	W29	.591	13088	23.8	8	-F		C	2305	.32	.37			4
823 MANI	26	0128E	0132D	0128U	S17	E20	.497	13084	27.6	4D	-F	2		0128	.93	1.06			F 4
*GRP60824	26	0643	0744	0651	S13	E46	.757	13095	29.7	61	1N				2.49				3 3 3 7
MITK	26	0640	0731	0652	S12	E50	.795	13095	30.0	51	1N		C	0652	2.37	3.98			ES
BUCA	26	0640	0730		S13	E50	.798	13095	30.0	50	1F		C	0652	2.21	3.60			
CATA	26	0650	0810	0650	S14	E38	.674	13095	29.1	80	1B	3		0650	2.90	3.92		(248)	
825 MONT	26	0659E	0729	0710	S11	E49	.782	13095	30.0	30D	1N		C	0710	2.58				6
826 ARCE	26	0810E	0810D		S16	E60	.891	13101	30.8		-F		C	0810	.26	.50			7
827 RAMY	26	1058	1104	1100	S09	E40	.674	13095	29.5	6	-F	4	C		.21				DE 10
828 CATA	26	1225	1230	1225	S19	W36	.682	13088	23.8	5	-N	3		1225	.29	.39		(174)	8
830 BOUL	26	1536	1543	1538	S29	E37	.759	13095	29.4	7	-F		C	1538	.32	.48			7
831 HUAN	26	1702	1710	1705	S17	E59	.886	13101	31.1	8	-F	2	C	1705	.21	.44			D 7
835 MONT	27	0713	0718	0714	S23	E88	1.000	13109	2.9	5	-F		C	0714	.21				8
836 HEUD	27	1236	1242	1238	S08	W06	.253	13084	27.1	6	-F		C	1238	.21	.28			5
838 BOUL	28	1301	1314	1306	S13	W16	.412	13084	27.3	13	-F		C	1306	.32	.33			7
GRP60841	29	0605	0715	0630	S09	E06	.271	13095	29.7	70	-N				.87				2 1 1 7
CATA	29	0605E	0715D	0630	S09	E06	.271	13095	29.7	70D	-N	3		0630	.87	.90		(174)	
MONT	29	0649E	0714	0649	S09	E06	.271	13095	29.7	25D	-N		C	0649	.41				E
842 PALE	29	1949E	1954	1949U	S18	E10	.431	13101	30.6	5D	-N	3	V		.10				4
843 BOUL	29	1955	2010	1957	S10	E10	.317	13095	30.6	15	-N		V	1957		1.30			5
847 PALE	30	1825E	1836	1827	S10	W16	.380	13095	29.6	11D	-F	3	C		.19				DE 6
849 PALE	30	1932	1940	1933	S09	W16	.369	13095	29.6	8	-F	3	C		.19				DE 4
851 MONT	31	0640E	0650	0640	S10	W20	.428	13095	29.8	10D	-N		C	0640	.62				E 4
854 BOUL	31	1310U	1326	1313	S10	W24	.479	13095	29.7	16D	-F		C	1313	.54	.59			8
GRP60855	31	1648	1710	1649	S10	W28	.530	13095	29.6	22	-F				1.71				2 2 2 7
MCMA	31	1648E	1651D		S10	W28	.530	13095	29.6	3D	-F		P	1649	.21	.20			D
BOUL	31	1648	1710	1649	S10	W27	.517	13095	29.7	22	1F		C	1649	3.21	3.61			

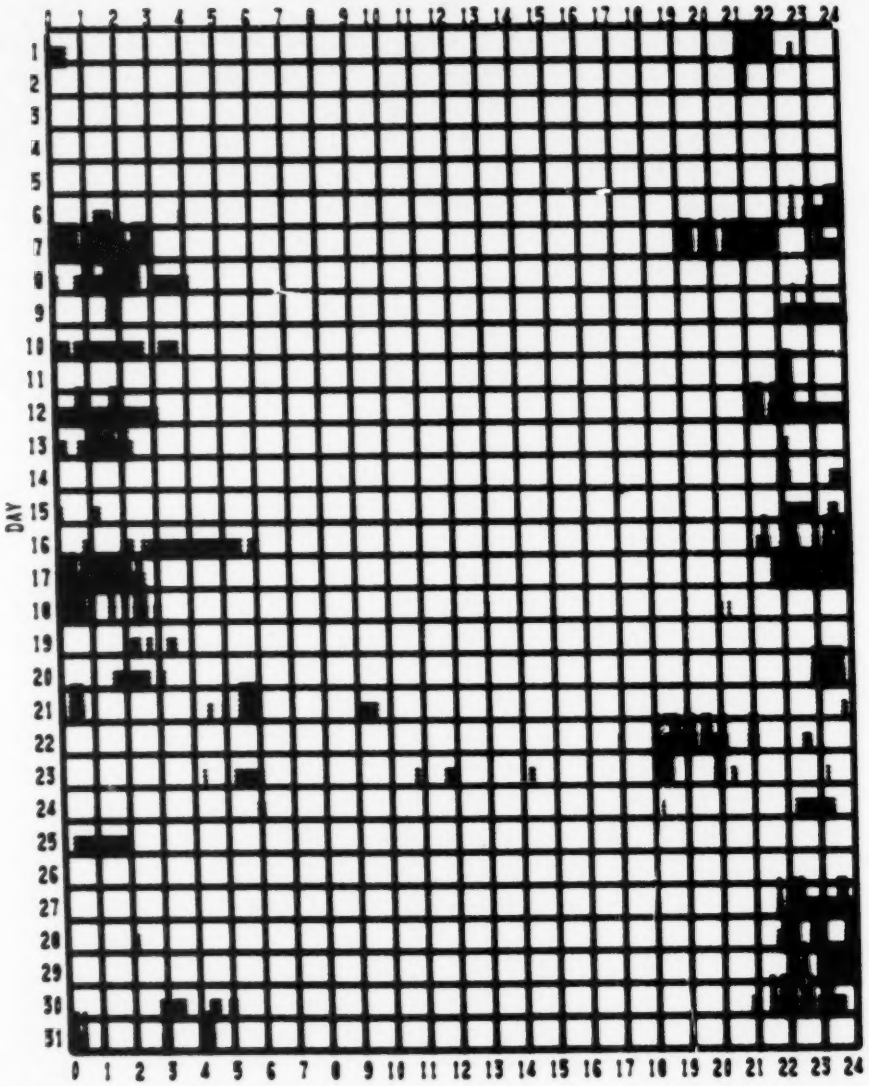
* Should be in Confirmed List.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JULY 1974

HOUR-UT



Observatories included in total patrol:

Abastumani	Culgoora	Kodaikanal	Monte Mario	Teheran
Arcetri	Herstmonceux	Locarno	Meudon	Upice
Athenes	Huancayo	Manila	Palehua	Voroshilov
Boulder	Hurbanovo	McMath-Hulbert	Ramey	Wendelstein
Bucharest	Kharkov	Mitaka	Tachkent	Zürich
Catania	Kiev			

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1974

JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
1	2695	MANI	4	0001.5	0000.9	19.5	48.7	13.1		
	100	GORK	44	0300		252		5.0		
	200	HIRA	44	0436	0743	314 D	23.0	10.0		
	200	HIRA	43	0436	0743	314 D	23.0	10.0		
	200	GORK	44	0445		525.1		7.0		
	260	ONDR	44	0640	1035	510	70.0			
	221	ABST	44	0700	1035.5	175	9.0			
	100	GORK	44	0712		378 D		10.0		
	315	DWIN	44	0820	1404	490 D		20.0		
	245	SGMR	44	0914 E	1412.8	906 D	45.1			
	234	POTS	45	1018	1603	390 D	60.0			
	113	POTS	45	1036	1603	372 D	350.0			
	245	BOUL	43	1308	0778 D				3	
	410	SGMR	43	1536	1713.6	524 D	51.3			
	200	HIRA	44	1940 E	0715	835 D	350.0	150.0		
	100	HIRA	44	1940 E	0640 U	830 D	1000.0D	190.0D		
	1000	TYKW	45	0437.8	0438	.7	6.0	2.0		
	650	GORK	41	0446.7	0447	1.4	2.3			
	650	GORK		0446.7	0447.8		7.9			
	3750	TYKW	5	0447	0447.4	1.5	3.0	1.0		
	2000	TYKW	5	0447	0447.5	1.5	.9	0.4		
	1000	TYKW	45	0447	0447.6	1	1.0	0.3		
	1000	TYKW	40	0456.5	0457.4	2	10.0	1.4		
	950	GORK	41	0456.9	0456.9	1	2.0			
	950	GORK		0456.9	0457.6		4.4			
	650	GORK	3	0458	0458.1	.3	42.0	16.5		
	3750	TYKW	5	0506	0506.4	1.5	2.0	0.5U		
	200	GORK	6	0516.1	0516.3	1.1	60.0	30.0		
	3750	TYKW	5	0556	0600	20	2.0	1.0		
	200	GORK	41	0719.8	0720	3.3	130.0			
	200	GORK		0719.8	0722.3		120.0			
	100	GORK	6	0721.8	0722.1U	11	80.0D			
	6100	KISV	20	0732	0746	33	2.0			
	100	GORK	6	0819	0820.9	5.3	80.0D			
	536	ONDR	5	0848	0848	.5	40.0			
	650	GORK	21	0918.6	0922.5	24.5	3.7	3.0		
	650	GORK	3	0921.1	0921.3	1.1	8.3	4.0		
	1470	BERL	45	0935.5	0936.7	1.5	6.7	3.0		
	930	BORD	40	0935	0937	3	10.0	2.0		
	6100	KISV		1032	1035.3	15	62.0			
	1470	BERL	4	1032.5	1035.9	32	416.0	144.0		
	9100	GORK	3	1033.5	1035.7	4.2	61.0	17.0		
	8800	SGMR	4	1033.3	1035.6	7.2	65.1	19.5		
	3000	BERL	4	1033.5	1035.3	31	54.0	18.0		
	510	POTS	45	1033.5U	1035.3U	2.5U	85.0	15.0		
	9500	BERL	4	1034	1035.3	13	45.0	11.0		
	8800	ATHN	45	1034.8	1035.6	1.4	308.0	103.0		
	4995	SGMR	4	1034.1	1035.6	4.3	60.1	18.0		
	4995	ATHN	45	1034.4	1035.8	2	405.0	135.0		
	3100	CRIM	3	1034	1035	74	50.0D			
	2695	SGMR	4	1034.2	1035.8	4.1	67.6	20.3		
	2695	ATHN	47	1034.6	1035.8	1.8	600.0	200.0		
	1415	SGMR	4	1034.1	1035.8	4.5	432.0	129.6		
	1415	ATHN	47	1034.4	1035.9	2.1	830.0	277.0		
	950	GORK	45	1034.4	1035.4	2.2	460.0D			
	950	GORK		1034.4	1035.7		666.0			
	930	BORD	45	1034	1035	10	640.0	40.0		
	808	ONDR	45	1034	1036	4.5	410.0			
	650	GORK	45	1034.4	1034.8	2.5	39.0			
	650	GORK		1034.4	1036		256.0			
	606	SGMR	4	1034.2	1035.9	9.3	185.4	55.6		
	536	ONDR	45	1034.5	1035.5	5	135.0			
	410	SGMR	6	1034.5	1035.9	4.3	97.9	29.4		
	315	DWIN	45	1034.2	1035.5	1.8	140.0	50.0		
	245	SGMR	6	1034.5	1035.2	2	59.3	17.8		
	221	ABST	48	1034.8	1035.5	1.5	27.0	8.0		
	200	GORK	41	1034.8	1035.4	4.5	120.0			
	200	GORK		1034.8	1038.6		200.0			
	113	POTS	45	1034.8	1035.3	1.1	280.0	40.0		
	100	GORK	41	1034.5	1035.1U	4.6	80.0D			
	100	GORK		1034.5	1037.9		80.0			
	29	UPIC	45	1034.5	1035	4				
	15400	SGMR	4	1035	1035.9	3.5	21.6	6.5		
	9240	ARCE	3	1035.2	1035.9	2.5				
	228	HARS	5	1035	1035.5	1.5	100.0	20.0		
	9240	ARCE	29	1037.7		63.5				
	9100	GORK	29	1037.7	1107	52.3	7.3	3.2		
	200	GORK	41	1042.1	1042.9	4.1	150.0			
	200	GORK		1042.1	1045.7		200.0			
	6100	KISV	20	1105	1107	22	4.0			
	29	UPIC	5	1123	1123.5	1				
	9100	GORK		1134	1500		9.2			
	6100	KISV	20	1155	1200	6	4.0			
	2800	OTTA	27	1155		195	1.6	1.5		
	2800	OTTA	24	1155	1210	15	1.6	0.8		
	9240	ARCE	20	1156.1	1200.5	48				
	2700	PENN	8	1158.3	1158.4	.2	5.0			
	3100	CRIM	24	1200						
	2800	OTTA	24	1210		155	1.6			
	6100	KISV	3	1216	1216.4	1.3	3.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1974

JUL 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	100 GORK	24	1251.9	1316.2D	39	160.0			
	650 GORK	41	1256.5	1256.7	1.3	6.9			
	650 GORK		1256.5	1258		3.5			
	2800 OTTA	20	1257	1323	53	4.2	2.1		
	950 GORK	1	1257.1	1257.4	.4	4.5	2.0		
	4995 SGMR	1	1303.9	1305.1	7.5	6.8	2.1		
	8800 SGMR	20	1304	1305.2	11	7.1	2.2		
	8800 ATHN	1	1304.3	1305.1	4.9	3.7	1.2		
	4995 BOUL	3	1304	1305	1	9.0	3.0		
	4995 ATHN	1	1304.4	1305.2	4.3	4.6	1.5		
	9400 HUAN	20	1319.3	1326.6	13.1	7.3	2.7		
	1420 BOUL	3	1341.5	1342	1	1.0			
	9400 HUAN	20	1359.5	1421.3	65.8	7.3	3.4		
	9500 BERL	20	1400	1427	60	9.6			
	4995 SGMR	20	1400.6	1406.8	25.4	7.9	2.4		
	3000 BERL	20	1400	1403.5	22	5.0			
	2800 OTTA	20	1400	1405	20	2.6	1.3		
	2695 SGMR	20	1400.8	1403.4	28.1	3.5	1.0		
	1470 BERL	40	1400	1413.5	28	5.1	1.5		
	536 ONDR	45	1400	1405	20	50.0			
	410 SGMR	6	1400.1	1403.1	23.9	7.0	2.1		
	245 SGMR	6	1400.2	1403.7	24.6	44.2	13.3		
	8800 SGMR	20	1401.3	1407	21.7	11.8	3.5		
	2695 BOUL	21	1401.5	1404.5	18	5.0	2.0		
	1415 SGMR	22	1401.2	1403.2	17.5	4.6	1.4		
	606 SGMR	22	1401	1403.1	17.8	6.6	2.0		
	930 BORD	41	1410	1413.5	7	29.0	3.0		
	1420 BOUL	3	1413	1414	2	3.0	1.0		
	2800 OTTA	26	1445	1510	25	-1.6	-0.8		
	930 BORD	45	1455	1455.6	2	7.0	2.0		
	536 ONDR	5	1456	1456	.5	35.0			
	29 UPIC	5	1500	1500	.5				
	3000 BERL	21	1528		72 D				
	9500 BERL	21	1530		70 D				
	9240 ARCE	21	1534.6	1628	105				
	3000 BERL	46	1535.8	1546.7	40	143.0			
	9400 HUAN	20	1538.2	1545.2	13.6	6.7	1.9		
	9240 ARCE	2	1546.5	1546.7	1.2				
	10700 PENN	45	1554.8	1558.5	17.4	66.1	8.8		
	9240 ARCE	2	1554.2	1554.8	1				
	4995 ATHN	4	1554.8	1558.4	11.4	52.8	15.8		
	2695 SGMR	46	1554.8	1556.3	6.7	12.2	10.4		
	2695 SGMR	46		1558.4		34.8			
	9500 BERL	46	1555	1557	16 U	72.0			
	9400 HUAN	45	1555.3	1556.9	5.7	43.9	24.2		
	9400 HUAN		1555.3	1558.4		78.1			
	9400 HUAN		1555.3	1558.6		80.5			
	8800 SGMR	46	1555.1	1556.9	7.3	42.0	26.6		
	8800 SGMR	46		1558.3		88.6			
	8800 ATHN	4	1555.4	1557.2	3.9	87.8	26.3		
	4995 BOUL	45	1555	1558	6	59.0	21.0		
	4995 SGMR	46	1555	1556.7	6.4	32.8	19.0		
	4995 SGMR	46		1558.1		63.4			
	2695 ATHN	4	1555.4	1558.4	4.8	30.7	9.2		
	1415 ATHN	46	1555.7	1558.6	4	57.9	17.4		
	15400 SGMR	4	1556.5	1558.6	7.5	36.7	11.0		
	7000 SAOP	23	1556.9	1559.8	65.2	84.6			
	7000 SAOP	22	1556.9		65.2	16.9			
	7000 SAOP	45	1556.9	1559.8	4	74.9			
	2800 OTTA	23	1556	1622	240	6.6	3.0		
	2800 OTTA	45	1556	1558.4	4.5	34.0	14.0		
	2700 PENN	45	1556	1558.5	6 E	39.0			
	2695 BOUL	45	1556.5	1559	5.5	34.0	13.0		
	1470 BERL	4	1556.5	1558.5	39 U	57.0	3.0		
	1420 BOUL	45	1556.5	1559	4	43.0	13.0		
	1415 SGMR	46	1556.7	1557.1	7.4	46.0	15.9		
	1415 SGMR	46		1558.7		53.0			
	960 PENN	45	1556.8	1558	9.8	81.5	4.6		
	930 BORD	45	1556	1557	5	325.0	35.0		
	606 SGMR	46	1556.8	1557.2	8.2	37.2	15.8		
	606 SGMR	46		1559		52.5			
	410 SGMR	6	1556.5	1558.3	10.5	93.6	28.1		
	9240 ARCE	46	1557	1558.4	4.3				
	9240 ARCE		1557	1557.3	1.1				
	9240 ARCE		1558.1	1558.4	3.2				
	7000 SAOP	20	1558.2		48.8	12.0			
	29 UPIC	45	1559	1559.5	2				
	9400 HUAN	20	1614.9	1616.4	19.4	12.2	4.6		
	2800 OTTA	8	1617.7	1617.7		2.6			
	10700 PENN	20	1623	1633.8	32	17.6	9.2		
	18 WCMA	42	1707	1736	37			2	
	8800 PALE	22	1710 U	1832.4	99 U	19.4	9.4U		
	2800 OTTA	8	1714.6	1714.6		2.0			
	15400 SGMR	22	1722.4	1832.8	112.6	26.0	15.6		
	8800 SGMR	22	1722.5	1829.2	113.2	28.7	17.2		
	4995 SGMR	22	1722.5	1828.7	114	15.5	9.3		
	2800 OTTA	1	1722.5	1723.3	2.5	3.6	1.2		
	2700 PENN	1	1722.6	1723.7	3.4	2.7	0.6		
	2695 SGMR	22	1722.8	1723.5	114.7	7.5	4.5		
	1415 SGMR	22	1722.4	1723.4	115.6	4.0	2.4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1974

JUL 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	960 PENN	40	1722.8		3.4				
	2695 BOUL	8	1723	1724.5	5.5	6.0	2.0		
	606 SGMR	22	1723	1726.1	114	8.9	5.3		
	9400 HUAN	20	1819	1834.5	35.1	12.2	5.1		
	2800 OTTA	20	1820	1828	70	5.2	2.4		
	18 MCMA	41	1820	1822	12			2	
	2695 BOUL	21	1821	1829.5	36.5	5.0	2.0		
	18 BOUL	41	1821	1824	11			2	
	2800 OTTA	21	2030	2120	165	6.4	3.4		
	18 MCMA	42	2101	2110	12			1	
	18 BOUL	6	2110	2112	3			1	
	2000 TYKW	5	2129.5	2130.3	2	4.0	1.5		
	1420 BOUL	3	2129.5	2130	1	1.0			
	2695 BOUL	3	2130 .	2131	2.5	4.0	1.0		
	2695 BOUL	45	2136.5	2155.5	35	135.0	40.0		
	1415 MANI	47	2140.8U	2149.7U	39.7U	620.0U			SUNRISE
	1000 TYKW	45	2140	2154.2	30	78.0U	18.0U		SUNRISE
	8800 MANI	40	2141.2U	2154.2U	39.3U	230.0U			SUNRISE
	4995 MANI	40	2141 U	2154.2U	39.5U	265.0U			SUNRISE
	2695 MANI	40	2141 U	2153.8U	39.5U	178.0U			SUNRISE
	2000 TYKW	28	2141.5	2141.9	1	5.0U	2.0U		SUNRISE
	9400 TYKW	45	2142 U	2154.1	22 U	300.0U	80.0U		RAIN
	18 MCMA	41	2142	2151	14			1	
	1420 BOUL	45	2143	2151	28.5	170.0	31.0		
	8800 SGMR	46	2144.8	2151.1	18.5	149.2	48.1		
	8800 SGMR	46		2154.3		240.7			
	8800 PALE	4	2144.6	2154.2	38.7	290.0	50.0		
	2930 VORO	45	2144.5	2154.5	28	238.0			
	2000 TYKW	45	2144	2154.3	20	210.0U	50.0U		SUNRISE
	1415 SGMR	46	2144.3	2149.8	22.5	268.2	47.9		
	1415 SGMR	46		2151.1		239.4			
	1415 PALE	4	2144.9	2149.8	28.3	470.0	100.0		
	606 SGMR	47	2144.7	2147	23.6	690.0	276.0		
	606 SGMR	47		2154.8		510.0			
	18 BOUL	41	2144	2154	15			3	
	15400 SGMR	46	2145.7	2154.3	12.3	174.2	34.8		
	15400 SGMR	46		2155.6		105.3			
	4995 BOUL	45	2145	2154.5	58.5	176.0	55.0		
	4995 SGMR	46	2145.3	2151.1	21.7	128.9	47.1		
	4995 SGMR	46		2154.3		235.4			
	2800 OTTA	4	2145.5	2154.5	16.5	198.0	61.0		
	2695 SGMR	46	2145.6	2151.1	20.7	87.9	39.0		
	2695 SGMR	46		2154.3		195.0			
	606 MANI	46	2145.5U	2146.9U	18.5U	390.0U	155.0		SUNRISE
	500 HIRA	45	2145		20		100.0		
	500 HIRA		2145	2147		480.0			
	500 HIRA		2145	2155		230.0			
	410 SGMR	7	2145.1	2148.2	23.2	460.0	138.0		
	9400 HUAN	46	2146	2154.1	16	207.4	79.0		
	3750 TYKW	45	2146 U	2154.2	18	230.0	55.0		SUNRISE
	245 SGMR	6	2146	2153.3	24	142.9	57.2		
	10700 PENN	45	2153 E	2154.3		217.0			
	2700 PENN	45	2153 E	2154.3		149.0			
	960 PENN	45	2153 E			80.0D			
	15400 SGMR	29	2158	2158	25.5	43.6	13.1		
	10700 PENN	29	2202	2202	58	31.8	15.9		
	2800 OTTA	29	2202	2202	18	6.2	3.0		
	8800 SGMR	29	2203.3	2203.3	13.7	9.4	2.8		
	9400 TYKW	29	2204		60	45.0	15.0		
	3750 TYKW	29	2204		65	14.0	8.0		
	2000 TYKW	29	2204		60	4.0	2.0		
	2695 BOUL	8	2236	2236.5	1	26.0	11.0		
	2695 BOUL	8	2303	2303.5	1	12.0	5.0		
	9400 TYKW	5	2320	0020	180	25.0U	10.0U		RAIN
	3750 TYKW	5	2320	0020	190	17.0	8.0		
	2000 TYKW	5	2320	0030	180	5.0	2.0		
	2695 PENT	23	2325	2420	140	14.0	6.0		
	1415 PALE	41	2333.8	0011	51.8	51.0	1.3		
	2695 MANI	22	2334.2	2344.2	15.8	13.9	4.4		
	1415 MANI	22	2334	2346.6	16	7.4	2.3		
	8800 PALE	41	2335.7	0011	88.1	46.0	2.8		
	1420 BOUL	3	2335	2336.5	1.5	3.0	1.0		
	2000 TYKW	40	2336	2344.2	15	6.0	2.0		
	606 MANI	22	2336.2	2346.4	13.8	5.4	1.5		
	1420 BOUL	45	2339	2339.5	2.5	4.0	1.0		
	1000 TYKW	45	2339	2339.4	10	5.0	1.0		
	2695 BOUL	8	2340	2340.5	1	4.0	1.0		
	1415 SGMR	4	2343	2343.2	1.6	43.0	17.2		
	2695 BOUL	3	2344	2345	1.5	4.0	1.0		
	1420 BOUL	3	2344	2346.5	3	3.0	1.0		
	8800 MANI	4	2354.4	0010.9	23.1	74.0	26.3		
	2000 TYKW	5	2354.5	2354.9	1	14.0	4.0		
	1415 MANI	4	2355.2	0010.9	20.9	49.2	9.2		
	4995 MANI	4	2356.5	0010.9	20.5	70.0	21.1		
	606 MANI	40	2357.6	0003.1	14.8	151.0	19.6		
	9400 TYKW	5	2359		6	10.0U	3.0U		RAIN
	2695 PENT	4	2409	2411	8	48.0	12.0		
2	2000 TYKW	45	0000	0011.1	30	50.0	7.0		
	1420 BOUL	45	0000.5	0002	3	14.0	5.0		

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2	606 SGMR	41	0000.4	0009.9	19.6D	37.6	11.3		
	1415 SGMR	41	0001.8	0002	18.2D	34.9	10.5		
	410 SGMR	6	0001.9	0003	18.1D	209.0	62.6		
	245 SGMR	6	0001.9	0011	18.1D	52.6	15.8		
	500 HIRA	45	0002.5	0003.5	2	200.0	100.0		
	1000 TYKW	40	0003	0003.3	5	3.0	0.2U		
	9300 IRKU	3	0006	0011.1	5	65.0			
	4995 BOUL	8	0008	0011	6	50.0	17.0		
	2695 BOUL	45	0008.5	0012	11	38.0	17.0		
	1420 BOUL	45	0008.5	0011	5.5	31.0	11.0		
	500 HIRA	45	0008.6	0010.7	3.5	100.0	30.0		
	9400 TYKW	5	0009	0011	6	23.0U	6.0U		RAIN
	3750 TYKW	5	0009	0011.1	10	40.0	7.0		
	1000 TYKW	45	0009	0011.2	4	20.0	5.0		
	2930 VORO	3	0010.2	0012.2		28.0			
	1000 TYKW	40	0015	0016.6	12	8.0	0.2U		
	8800 PALE	20	0108.7	0116.6	15	8.5	2.1		
	3750 TYKW	45	0108	0116.7	20	8.0	2.0		
	1000 TYKW	40	0108	0119.9	4	2.0	0.1U		
	9400 TYKW	5	0109	0117	14	9.0U	3.0U		RAIN
	4995 BOUL	3	0115	0116.5	2.5	9.0	4.0		
	2695 PENT	2	0115	0116.5	6	4.6	2.3		
	2695 MANI	2	0115.3	0116.6	2.5	4.4	.9		
	2000 TYKW	45	0115	0116	10	9.0	2.0		
	1420 BOUL	3	0115	0116	2.5	4.0	1.0		
	1415 MANI	2	0115.3	0115.7	2.3	6.9	2.8		
	1415 PALE	1	0115.6	0115.8	2.6	4.5	.9		
	1000 TYKW	45	0115	0115.9	3	4.0	1.0		
	606 MANI	2	0115	0115.8	2	3.4	.5		
	2695 BOUL	3	0116.5	0118.5	3	6.0	2.0		
	8800 PALE	20	0141.7	0151.7	32.7	12.0	3.5		
	1415 PALE	1	0158.2	0158.4	.6	5.4	1.8		
	3750 TYKW	5	0242	0257	65	4.0	2.0		
	2000 TYKW	5	0247	0340	75	1.0	0.5		
	1000 TYKW	45	0249.5	0249.9	1	50.0	12.0		
	200 GORK	44	0300 E		600 D		150.0		
	100 GORK	44	0300 E		600 D		25.0		
	29 UPIC	44	0602		508				
	221 ARST	44	0700	0859.2	240	6.0			
	247 IZMI	43	0700		300	270.0			
	536 ONDR	44	0730	0952.5	461	145.0			
	260 ONDR	44	0730	0821.5	461	235.0D			
	315 OWIN	44	0735	1210	750 D		90.0		
	550 KIEV	24	0905	1203	360	61.0	46.0		
	410 SGMR	44	0914 F	2044	906 D	99.9			
	245 SGMR	44	0914 E	2040.7	906 D	158.7			
	245 BOUL	44	1143 F	0863 D				3	
	200 HIRA	44	1940 E	2303	865 D	250.0	160.0		
	100 HIRA	44	1940 E	0001	865 D	1000.0	170.0		
	1415 ATHN	4	0417.2	0418.3	1.2	17.4	5.8		
	4995 MANI	4	0418	0418.7	1.8	11.7	1.8		
	3750 TYKW	5	0418	0418.7	3	8.0	2.0		
	2695 MANI	2	0418.1	0418.5	1.2	4.4	.9		
	1415 MANI	40	0418.1	0418.5	1	15.2	4.6		
	1415 PALE	4	0418.2	0418.5	.6	15.7	7.6		
	1000 TYKW	5	0418	0418.3	1	13.0	1.0		
	606 MANI	8	0420.2	0420.7	.6	30.4	3.9		
	3750 TYKW	5	0425	0540	85	5.0	3.0		
	2000 TYKW	5	0425	0540	97	3.0	2.0		
	1000 TYKW	45	0438.8	0438.9	6	7.0	0.3		
	9400 TYKW	45	0454	0455	5	29.0	6.0		
	9300 IRKU	1	0454.3	0455	10	31.0			
	8800 MANI	3	0454.5	0455.2	4.1	27.8	7.0		
	8800 ATHN	3	0454.2	0455	4	30.1	8.4		
	4995 MANI	3	0454.6	0455.2	4	12.5	3.6		
	4995 ATHN	3	0454.5	0455	3.9	13.7	3.9		
	3750 TYKW	5	0454	0455	3	5.0	2.0		
	9400 TYKW	29	0459		30	5.0	2.0		
	1000 TYKW	45	0509.5	0510.2	1.5	4.0	0.4		
	2000 TYKW	45	0533.3	0534.3	1.5	3.0	1.0		
	1415 MANI	4	0533.4	0534.5	1.4	11.3	1.8		
	2695 MANI	1	0534.2	0534.6	.6	2.6	.9		
	650 GORK	1	0534.2	0534.6	.9	7.6	3.8		
	606 MANI	8	0534.2	0534.5	.6	5.4	1.0		
	950 GORK	1	0536.6	0536.6	.4	5.9	2.8		
	9400 TYKW	45	0544	0715.1	95	830.0	60.0		
	9400 TYKW	45	0544	0615.1	52	63.0	11.0		
	6100 KISV	47	0550.4	0600.4	20.1	57.0			
	3750 TYKW	45	0550	0715.1	94	570.0	50.0		
	3750 TYKW	45	0550	0615.2	44	36.0	12.0		
	510 POTS	45	0600 E	0712.5	110 D	4000.0			
	234 POTS	45	0600 F	0714.5	84 D	87000.0			
	113 POTS	45	0600 F	0726.5	96 D	2400.0			
	8800 MANI	41	0601.8	0603	26.2	113.0	26.1		
	4995 MANI	41	0601.8	0615.3	26.2	44.0	13.4		
	4995 ATHN	3	0601.9	0602.8	1.4	29.4	8.8		
	2695 MANI	41	0601.8	0609.6	25.7	17.6	7.0		
	1415 MANI	41	0601.8	0615.5	20.9	50.0	3.6		
	606 MANI	41	0601.5	0615	22.2	37.2	7.4		
	9300 IRKU	3	0602	0602.8	2	91.0			

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2	8800	ATHN	4	0602.1	0602.8	4.4	16.7	5.0		
	3100	CRIM	40	0602	0602.	240	29.0	10.0		
	3100	CRIM		0602	0616		27.0	9.0		
	3100	CRIM		0602	0637		58.0	19.0		
	3100	CRIM		0602	0640		109.0	36.0		
	3100	CRIM		0602	0650		160.0	53.0		
	3100	CRIM		0602	0715		360.0	120.0		
	2695	ATHN	1	0602.3	0602.7	1	9.1	2.7		
	2000	TYKW	45	0602	0715.1	80	240.0	34.0		
	2000	TYKW	45	0602	0610.1	28	40.0	6.0		
	1415	ATHN	1	0602.3	0602.7	1	1.7	.5		
	1000	TYKW	45	0602	0615.5	15	55.0	4.0		
	29	UPIC	45	0602		9.5				
	950	GORK	23	0605 E	0637.7	95	6.0			
	200	GORK	41	0605.5E	0606.5	13.3	1500.0			
	200	GORK		0605.5E	0610.1		2000.0			
	200	GORK		0605.5E	0613.9		2000.0			
	650	GORK	23	0606 F	0724	106.7	8.0			
	8800	ATHN	2	0608.6	0609.6	2.1	6.7	2.0		
	650	GORK	4	0608.7	0610.3	1.9	15.0			
	9300	IRKU	20	0609	0615.1	15	98.0			
	2695	ATHN	3	0609.1	0609.6	1.6	13.7	4.2		
	1415	ATHN	4	0609	0609.5	1.3	12.5	3.8		
	950	GORK	4	0609	0609.9	2.5	17.0			
	228	HARS	45	0609	0610	2	750.0	150.0		
	100	GORK	41	0609.2	0609.6	6.8	4000.0D			
	100	GORK		0609.2	0614		2000.0			
	8800	ATHN	46	0612.1	0615.1	14.2	50.1	15.0		
	4995	ATHN	46	0612.3	0615.1	7.3	78.4	23.5		
	2695	ATHN	4	0612.4	0615.1	4.5	13.7	4.1		
	1415	ATHN	46	0612.6	0615.3	4	43.2	13.0		
	950	GORK	46	0612	0614.2	6	21.0			
	950	GORK		0612	0615.9		36.0			
	650	GORK	46	0613	0614.1	3.7	27.0			
	650	GORK		0613	0615.2		30.0	9.7		
	9100	GORK	47	0630	0715	128	695.0	67.0		
	2000	TYKW	45	0630	0650.2	33	240.0	40.0		
	1000	TYKW	45	0630	0639.6	60	80.0	23.0		
	1000	TYKW	45	0630	0639.6	33	80.0	22.0		
	6100	KISV	47	0632.3	0640.3	25	109.0			
	4995	ATHN	46	0633.5	0639.3	18.9	55.9	16.8		
	2695	ATHN	46	0633	0650	30.3	178.1	53.4		
	3750	TYKW	45	0634	0641.3	32	152.0	40.0		
	4995	MANI	47	0635.9	0715.3	70.9	1550.0	390.0		
	1415	ATHN	46	0635.7	0641.1	15.5	250.5	75.2		
	1415	ATHN	46		0650.2		156.5			
	9400	TYKW	45	0636	0640.7	30	130.0	55.0		
	9300	IRKU		0636	0640.5		164.0			
	9300	IRKU		0636	0643.7		63.0			
	9300	IRKU		0636	0647.2		112.0			
	9300	IRKU	45	0636	0650.1	81	81.0			
	9300	IRKU		0636	0715		1270.0			
	8800	MANI	47	0636.6	0715.3	67.9	1060.0	250.0		
	8800	ATHN	46	0636.9	0640.7	14.8	81.8	24.5		
	2695	MANI	46	0636	0715.1	71.4	360.0	106.0		
	1415	MANI	46	0636	0641.3	66.3	240.0	67.0		
	808	ONDR	45	0636		46	680.0D			
	536	ONDR	45	0636		54	470.0D			
	260	ONDR	45	0636		54	235.0D			
	100	GORK	41	0636.5	0637	8.4	104.0			
	100	GORK		0636.5	0643.9		19000.0			
	29	UPIC	45	0636.5	0641	12.5				
	1420	KIEL	45	0637	0642	46	320.0	70.0		
	1000	KIEL	45	0637	0707	45	900.0	200.0		
	950	GORK	46	0637.6	0639.2	13.6	425.0			
	950	GORK		0637.6	0650.5		665.0			
	800	KIEL	45	0637	0708	49	2200.0	200.0		
	650	GORK	4	0637.5	0638.7	1.4	147.0			
	606	MANI	47	0637	0708.3	49.7	17200.0	2200.0		
	600	KIEL	45	0637	0711	50	4600.0	700.0		
	500	HIRA	48	0637	0708.6	48	6400.0	620.0		
	228	HARS	45	0639.5	0640	1.5	900.0	300.0		
	200	GORK	6	0639.4	0639.7	1.7	2000.0D			
	9500	BERL	46	0645 F	0715	272 D	670.0	235.0		
	3000	BERL	46	0645 F	0715	276 D	531.0	136.0		
	1470	BERL	46	0645 F	0650	300 D	184.0	54.0		
	550	KIEV	48	0648.5E	0708.4	35 D	17800.0			
	650	GORK	4	0649.5	0650.2	1.5	1240.0			
	200	GORK	41	0650.2	0655.4	31.2	300.0			
	200	GORK		0650.2	0713		2000.0			
	200	GORK		0650.2	0715.2		15000.0			
	200	GORK		0650.2	0717.3		2000.0			
	1415	ATHN	41	0651.2	0701.7	36.3	97.1	29.1		
	228	HARS	5	0654.5	0655.5	2	650.0	200.0		
	950	GORK	3	0701.5	0702	1	350.0			
	650	GORK	46	0701.5	0701.7	8.7	2000.0D			
	650	GORK		0701.5	0708.7		15000.0			
	100	GORK	41	0701.5	0709.2	20	4000.0			
	100	GORK		0701.5	0715.1		4000.0D			
	29	UPIC	45	0701.5	0709	17.5				

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2	2000 TYKW	45	0703	0715.1	19	185.0	65.0		
	1000 TYKW	45	0703	0715	27	75.0	25.0		
	6100 KISV	41	0704.4	0715.1	17.3	536.0			
	2695 ATHN	28	0705.7	0710.3	4.6	36.5	11.0		
	9400 TYKW	45	0706	0715.1	13	830.0	260.0		
	8800 ATHN	28	0706.4	0707.7	1.3	6.7	2.0		
	4995 ATHN	28	0706.2	0707.8	1.6	16.7	5.0		
	3750 TYKW	45	0706	0715.1	18	570.0	155.0		
	950 GORK	46	0706	0708.4	12.3	530.0			
	950 GORK		0706	0711.2		490.0			
	9240 ARCE	28	0707.1		3.5				
	8800 ATHN	47	0707.7	0712.9	16.3	448.0	167.4		
	8800 ATHN	47		0714.6		558.0D	.4		
	4995 ATHN	46	0707.8	0712.7	25.1	245.0D	49.0		
	4995 ATHN	46		0715		245.0	49.0		
	207 IZMI	49	0708.5	0715.1	16.5	15000.0	4000.0		
	207 IZMI		0708.5	0719.6		5800.0			
	228 HARS	45	0709	0715	14	3000.0	1000.0		
	9240 ARCE	45	0710.6	0715.1	9.1				
	9240 ARCE		0710.6	0713.2	3.6				
	9240 ARCE		0714.2	0715.1	5.5				
	2695 ATHN	46	0710.3	0712.7	13.7	189.2	78.3		
	2695 ATHN	46		0715.3		260.8			
	400 KIEL	45	0716 E	0716		15000.0	2000.0		
	240 KIEL	45	0716 E	0716		32000.0	3000.0		
	9400 TYKW	29	0719		41 D	80.0	40.0U		
	9240 ARCE	29	0719.7		48				
	2000 TYKW	29	0722		38 D	18.0	10.0U		
	3750 TYKW	29	0724		36 D	32.0	20.0U		
	650 GORK	4	0725.4	0725.6	.7	25.0	12.5		
	606 MANI	40	0814	0820.2	8.3	47.9	5.1		
	1470 BERL	40	0815	0821.7	20	7.0			
	8800 MANI	4	0819.4	0821.9	4.1	50.0	14.3		
	6100 KISV	41	0819.4	0821.4	4.3	34.0			
	4995 MANI	4	0819.7	0821.9	3.8	32.6	10.2		
	3000 BERL	46	0819.5	0822	3.2	26.0			
	2695 MANI	2	0819.5	0820.2	3.8	10.4	2.8		
	1415 MANI	2	0819.2	0821.9	3.1	3.7	1.4		
	808 ONDR	45	0819.5	0819.5	2.5	115.0			
	650 GORK	4	0819.9	0820.9	2.4	73.0			
	950 GORK	41	0820.1	0820.1	2.6	2.5			
	950 GORK		0820.1	0822.2		7.7			
	930 BORD	41	0820	0821.8	3	13.0	2.0		
	536 ONDR	45	0820	0822	3	105.0			
	510 POTS	45	0820 U	0821.9	2 U	210.0	7.0		
	315 DWIN	45	0820.3	0821.9	1.8	800.0	150.0		
	234 POTS	45	0820.4	0821.8	1.6	700.0	35.0		
	113 POTS	45	0820.6	0821.6	1.6	4900.0	400.0		
	100 GORK	41	0820.6	0820.9	1.8	4000.0			
	100 GORK		0820.6	0822		4000.0D			
	29 UPIC	45	0820.5		2				
	9500 BERL	4	0821.5	0821.7	2	39.0			
	9300 IRKU	3	0821.7	0821.8	1.5	67.0			
	9240 ARCE	3	0821.9	0822	2				
	228 HARS	45	0821	0821.5	1	600.0	200.0		
	207 IZMI	6	0821.5	0822	.7	720.0	300.0		
	8800 ATHN	3	0822	0822.2	1.6	18.4	5.5		
	4995 ATHN	3	0822	0822.2	2.2	14.7	4.4		
	2695 ATHN	1	0822	0822.2	1.2	6.8	2.0		
	650 GORK	1	0827.4	0827.6	1.1	3.2	1.6		
	234 POTS	45	0853.3	0853.4	.1	250.0	80.0		
	9100 GORK	20	0857	0906	30	6.7	3.3		
	29 UPIC	45	0910	0913	4.5				
	9100 GORK	22	0936		144 D				
	6100 KISV	3	0936.4	0937.3	2	6.0			
	3000 BERL	40	0936.5	0943.2	24	19.0			
	9500 BERL	22	0942.5	0947	28	14.0			
	8800 ATHN	3	0942.7	0951.2	18	11.7	3.8		
	6100 KISV	20	0942.3	0947	20	11.0			
	4995 ATHN	20	0942.8	0951.2	18.2	9.8	2.9		
	2695 ATHN	3	0942.7	0943.2	11.5	16.0	4.8		
	1470 BERL	40	0942.5	0943.3	13	6.7			
	1415 ATHN	20	0942.7	0943.2	11.9	3.3	1.0		
	930 BORD	40	0942	0946.8	14	19.0	3.0		
	808 ONDR	45	0942.5	0951.5	14	85.0			
	29 UPIC	45	0942		14				
	234 POTS	45	0943.2	0943.2	.1	450.0	90.0		
	113 POTS	40	0943.2	0946.8	4.8U	5000.0	200.0		
	650 GORK	23	0944.3	0953.6	11.9	12.3	4.4		
	950 GORK	40	0945	0947.2	10.2	12.6			
	606 SGMR	40	0945 U	0951.3	11.2U	65.9	19.8		
	410 SGMR	7	0945 U	0952.2	11 U	324.0	97.2		
	100 GORK	6	0945.8	0947	1.4	4000.0D			
	550 KIEV	6	0946.5	0952.4	9	97.0			
	510 POTS	41	0946 U	0953.2	7.3	300.0	3.0		
	536 ONDR	45	0950.5	0952.5	4	145.0			
	650 GORK	4	0951	0951.6	3	48.0			
	228 HARS	45	0952	0952.5	1	950.0	200.0		
	650 GORK	4	1018.1	1019.7	2.9	10.0	5.0		
	536 ONDR	45	1018	1019.5	3.5	75.0			

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2	29	UPIC	45	1020	1022.5	4				
	930	BORD	5	1032	1032.3	1	19.0	2.0		
	950	GORK	3	1032.4	1032.5	.3	14.0	7.0		
	808	ONDR	5	1032	1032	.5	85.0			
	650	GORK	22	1032.2	1035.6	10.5	2.5	1.2		
	29	UPIC	45	1034	1035	2				
	650	GORK	23	1043.5	1137	93.5	15.6	10.0		
	29	UPIC	45	1044.5		91.5				
	234	POTS	40	1057.5	1106	13	600.0	12.0		
	808	ONDR	45	1108.5	1110.5	3	100.0			
	606	SGMR	40	1108.5	1111.2	4.5	37.8	11.3		
	536	ONDR	45	1108.5	1111	3	80.0			
	950	GORK	46	1109.5	1109.5	2.1	12.9			
	950	GORK		1109.5	1111		26.0			
	930	BORD	41	1109	1110.9	3	90.0	2.0		
	650	GORK	46	1109.4	1110.6	2.2	31.0			
	650	GORK		1109.4	1111.2		41.0			
	510	POTS	40	1109 U	1110.5U	3 U	90.0	7.0		
	1470	BERL	4	1110.5	1110.5	.5	6.7			
	1415	SGMR	2	1110.7	1110.8	2.4	6.2	1.2		
	29	UPIC	45	1143.5	1144	3				
	950	GORK	21	1146	1217	75 D	7.8			
	29	UPIC	45	1153	1218	53.5				
	3000	BERL	22	1215	1416.5	165 D	12.0			
	1470	BERL	22	1218	1309	162 D	7.0			
	650	GORK	23	1218.6	1233.6	42.9	58.0			
	9500	BERL	20	1225	1352 U	155 D	19.0			
	2800	OTTA	22	1225	1343	135	4.6	2.3		
	650	GORK	4	1232.8	1234.5	2.7	7.5	3.7		
	950	GORK	3	1233.7	1234.5	2	4.3			
	808	ONDR	45	1233	1234	2.5	75.0			
	29	UPIC	45	1256	1300	8				
	234	POTS	45	1259.8	1259.8	.2	600.0	150.0		
	113	POTS	45	1259.8	1259.8	.1	1200.0	300.0		
	7000	SAOP	22	1321.2		42.7	15.3			
	29	UPIC	45	1354	1402	10				
	113	POTS	5	1357	1357.1	.1	570.0	200.0		
	536	ONDR	45	1358.5	1402	3.5	70.0			
	808	ONDR	45	1400.5	1401	1.5	70.0			
	606	SGMR	4	1401.2	1401.7	.8	19.5	5.8		
	410	SGMR	6	1401.3	1401.5	.7	16.7	5.0		
	245	SGMR	6	1401.3	1401.5	.8	136.0	40.7		
	29	UPIC	45	1411.5	1412	1				
	536	ONDR	45	1419	1421.5	4	80.0			
	510	POTS	45	1420.5U	1421 U	1 U	77.0	10.0		
	315	DWIN	45	1420.5	1420.9	.4	460.0	200.0		
	234	POTS	45	1421.2	1421.2	.6	400.0	80.0		
	113	POTS	45	1421.2	1421.3	.4	430.0	100.0		
	808	ONDR	5	1424	1424	.5	75.0			
	29	UPIC	45	1429	1429.5	1				
	29	UPIC	45	1506.5	1507.5	3				
	113	POTS	5	1507	1507.1	.2	600.0	200.0		
	29	UPIC	45	1514.5	1522	8.5				
	18	MCMA	41	1514	1519	7			2	
	7000	SAOP	2	1526.3	1526.4	.8	11.9			
	930	BORD	41	1535	1537	3	11.0	2.0		
	18	MCMA	41	1535	1538	5			2	
	930	BORD	45	1542	1542.1	1	11.0	2.0		
	7000	SAOP	23	1551.3	1634.4	132	87.0			
	7000	SAOP	22	1551.3		132	17.8			
	930	BORD	5	1557	1557.9	1	22.0	2.0		
	29	UPIC	45	1557.5	1558.5	1.5				
	18	MCMA	41	1558	1600	7			2	
	18	BOUL	42	1606	1613	8			1	
	29	UPIC	45	1608	1609	7.5				
	18	MCMA	42	1608	1615	9			3	
	930	BORD	45	1610	1610.7	1	10.0	2.0		
	4995	SGMR	4	1626.9	1638.9	30.1	58.3	17.5		
	8800	SGMR	4	1627.8	1638.8	30.2	64.0	19.2		
	8800	ATHN	1	1627.9	1630	2.1	7.5	2.3		
	2800	OTTA	21	1627	1650	115	5.2	3.0		
	2695	SGMR	4	1627.5	1639	18.6	26.7	4.6		
	4995	BOUL	45	1628	1638.5	14.5	47.0	15.0		
	4995	ATHN	1	1628.3	1630.1	3.4	8.7	2.6		
	1415	SGMR	4	1628.5	1639	34.4	89.0	26.7		
	410	SGMR	49	1630	1639.2	21.3	2750.0	825.0		
	18	BOUL	6	1630	1634	6			1	
	7000	SAOP	4	1632.5	1634.4	5.4	71.5			
	1420	BOUL	45	1632.5	1639	16.5	48.0	17.0		
	606	SGMR	47	1632	1638.7	24.8	11500.0	3450.0		
	15400	SGMR	4	1633.5	1638.7	21.3	28.1	8.4		
	2695	BOUL	45	1633.5	1640	12	20.0	6.0		
	1415	ATHN	46	1633.1	1639	11.7	73.5	22.1		
	930	BORD	45	1633	1639	18	250.0	35.0		
	315	DWIN	41	1634.3	1641.1	9	160.0			
	10700	PENN	3	1636.5	1638.9	8.9	36.6	10.3		
	9400	HUAN	3	1636.3	1638.8	4.7	50.9	14.7		
	8800	ATHN	46	1636.3	1638.8	8.5	48.6	14.6		
	4995	ATHN	46	1636.2	1638.9	8.6	38.2	11.5		
	2800	OTTA	4	1636	1639	10	21.0	5.2		

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2	2695	ATHN	46	1636.2	1639	8.5	17.2	5.2		
	960	PENN	45	1636.2	1639	12.1	89.2	11.1		
	9240	ARCE	4	1637.7	1639.1	11				
	8800	PALE	4	1637.6	1638.8	7.5	58.1	13.6		
	1415	PALE	4	1637.7	1639	9.9	99.0	16.9		
	18	BOUL	41	1638	1645	9			1	
	18	MCMA	41	1639	1646	11			3	
	9400	HUAN	29	1641	1641	8.3	16.1	7.0		
	8800	SGMR	22	1700	1714.8	43.2	15.2	9.1		
	4995	SGMR	22	1700.1	1714.9	42.9	7.6	4.5		
	18	MCMA	6	1700	1703	5				
	410	SGMR	6	1701.5	1720.6	34.9	53.2	16.0	2	
	2695	SGMR	22	1705.4	1718	39.1	2.5	1.5		
	9400	HUAN	20	1706.2	1712.9	15.2	13.4	6.1		
	1415	SGMR	22	1707.8	1723.3	94.6	2.3	1.4		
	18	BOUL	41	1707	1717	12			1	
	7000	SAOP	22	1710		12.4	10.1			
	606	SGMR	22	1711.4	1722	36.5	18.3	11.0		
	18	MCMA	41	1714	1718	11			1	
	315	OMIN	45	1719.4	1720.8	1.7	420.0	75.0		
	15400	SGMR	22	1720	1742.1	32.3	31.1	18.7		
	18	MCMA	41	1745	1749	6			2	
	7000	SAOP	22	1802.5		10	12.8			
	18	BOUL	42	1824	1934	79			3	
	18	MCMA	42	1840 F	1933	54 D			3	
	15400	SGMR	3	1846.3	1846.4	1.4	28.5	8.6		
	10700	PENN	3	1846.2	1846.5	2.8	23.2	4.0		
	8800	SGMR	3	1846.2	1846.4	1.8	17.6	5.3		
	8800	PALE	3	1846.3	1846.6	2.5	18.6	2.2		
	4995	SGMR	1	1846.1	1846.4	1.9	2.8	.8		
	2800	OTTA	28	1850	1925	35	1.8	0.9		
	15400	SGMR	23	1925	1950.3	124.3	16.7	7.4		
	2800	OTTA	27	1925		305	9.2			
	2800	OTTA	24	1925	1935	10	9.2	4.6		
	2695	SGMR	23	1925.6	1943.8	110.1	8.4	5.0		
	8800	PALE	23	1926	1950.2	126.5	31.5	2.6		
	8800	SGMR	23	1927.2	1934.5	115.8	17.6	10.6		
	4995	SGMR	23	1927.5	1935.4	120.1	16.8	10.1		
	1415	SGMR	23	1930.4	2043.8	111.4	7.8	4.7		
	1415	PALE	23	1932.3	1954.2	108.3	3.6	2.2		
	606	SGMR	40	1932.5	1934.1	114	56.1	33.7		
	2800	OTTA	24	1935		272	9.2			
	18	MCMA	42	2034	2052	35			2	
	8800	PALE	40	2042.6	2043.6	4.9	5.7	3.4		
	2800	OTTA	2	2042	2044	3	2.0	1.0		
	2695	BOUL	45	2043.5	2045	2.5	4.0	1.0		
	1420	BOUL	8	2043.5	2044	1	9.0	4.0		
	1415	PALE	2	2043	2043.8	1.2	8.9	2.7		
	8800	PALE	40	2050.2	2052.8	11.1	10.0	6.0		
	15400	SGMR	1	2051.3	2052	2.7	8.7	2.6		
	10700	PENN	1	2051.4	2053.2	7.4	4.7	2.3		
	1420	BOUL	8	2051	2052.5	3	6.0	2.0		
	1415	SGMR	1	2051.5	2052.8	2	8.4	2.5		
	1415	PALE	2	2051	2052.2	7.3	7.6	2.3		
	410	SGMR	48	2051.6	2051.8	1	580.0	174.0		
	8800	SGMR	1	2052.5	2053.1	1.9	7.6	1.0		
	4995	SGMR	1	2052.5	2052.9	1.5	3.9	1.2		
	2800	OTTA	1	2052.2	2052.9	1	4.6	2.3		
	2695	SGMR	1	2052.5	2052.9	1.1	4.8	1.4		
	2695	BOUL	8	2052.5	2053.5	2	7.0	3.0		
	960	PENN	3	2052.7	2052.6	1.5	54.9	6.4		
	606	SGMR	47	2052.5	2052.8	.7	730.0	219.0		
	500	HIRA	5	2052	2053	1.5	880.8	330.0		
	18	BOUL	6	2103	2109	8			1	
	18	MCMA	6	2107	2109	5			2	
	9400	HUAN	20	2112.7	2123.8	23	12.1	3.4		
	410	SGMR	6	2132.3	2134	2.2	45.2	13.6		
	606	SGMR	41	2133.2	2137	4.9	27.5	8.2		
	18	MCMA	42	2133	2139	7			1	
	8800	SGMR	3	2200.9	2206	8.8	10.0	3.0		
	606	SGMR	20	2200.9	2204.2	13.8	5.5	3.3		
	1415	SGMR	3	2201.8	2205.5	10.6	12.8	3.8		
	4995	SGMR	3	2202.9	2204.5	10.4	11.3	3.4		
	3750	TYKW	45	2202	2204.8	7	14.0	4.0		
	2800	OTTA	3	2202.5	2206	13	13.2	6.0		
	2000	TYKW	5	2202	2205	13	14.0	6.0		
	1420	BOUL	3	2202.5	2206	9.5	10.0	4.0		
	1415	PALE	20	2202.8	2204.6	9.5	12.9	7.8		
	1000	TYKW	5	2202	2205	8	9.0	3.0		
	18	MCMA	6	2202	2205	6				
	18	BOUL	6	2202	2206	6			2	
	9400	TYKW	5	2203	2205	7	4.0	2.0	1	
	8800	PALE	20	2203.5	2205.6	13.5	10.0	6.0		
	2695	BOUL	3	2203.5	2207	13.5	16.0	6.0		
	2695	SGMR	3	2203.6	2204.7	7.4	10.6	3.2		
	606	MANI	40	2244.4	2304	72	445.0	72.0		
	2695	PENT	21	2245		70	7.4	3.7		
	8800	MANI	4	2246.7	2311.4	40	205.0	27.4		
	4995	BOUL	45	2246	2312	56.5	176.0	40.0		
	4995	MANI	4	2246.7	2311.4	41.1	235.0	46.8		

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2	2695	BOUL	45	2246.5	2307	50	52.0	17.0		
	410	SGMR	6	2247.5	2311.7	67.5	201.0	60.2		
	245	SGMR	6	2247.5	2313.5	67.5	111.1	33.0		
	9400	TYKW	45	2248	2311.4	42	145.0	25.0		
	3750	TYKW	45	2248	2311.5	42	110.0	18.0		
	2695	MANI	40	2248.5	2305.8	45	86.0	19.4		
	1415	MANI	40	2250.3	2306.2	50	161.0	33.6		
	2695	PENT	40	2251	2306	39	74.0			
	2000	TYKW	45	2251	2305.9	39	225.0	25.0		
	1420	BOUL	3	2251	2252	1.5	4.0	1.0		
	1415	SGMR	46	2251.2	2306.2	47.8	162.5	32.5		
	1415	SGMR	46		2311.1		68.5			
	606	SGMR	46	2251.3	2304.2	53.7	287.0	57.4		
	606	SGMR	46		2311.5		263.0			
	500	HIRA	45	2251.3		24.5		20.0		
	500	HIRA		2251.3	2252		140.0			
	500	HIRA		2251.3	2311.4		230.0			
	1420	BOUL	45	2258	2308	24	68.0	15.0		
	1000	TYKW	45	2258	2311	25	34.0	5.0		
	960	PENN	45	2258	2311.2D		75.0D			
	10700	PENN	45	2300	2311.4D		110.0D			
	8800	PALE	46	2300.6	2306.5	29.9	72.0	510.0		
	8800	PALE	46		2311.3		170.0			
	1415	PALE	46	2300.5	2306.3	32.5	200.0	60.0		
	1415	PALE	46		2311.1		69.0			
	2930	VORO	3	2301	2311	17.5	51.0			
	15400	SGMR	46	2302.1	2302.9	17.9	79.4	15.9		
	15400	SGMR	46		2311.4		48.4			
	8800	SGMR	46	2302	2306.4	20.5	51.7	28.4		
	8800	SGMR	46		2311.4		140.3			
	2695	SGMR	46	2302.1	2305.8	18.5	60.3	12.1		
	2695	SGMR	46		2311.7		49.5			
	4995	SGMR	46	2303	2306.4	21	16.2	27.5		
	4995	SGMR	46		2311.3		137.6			
	500	HIRA	29	2315.5	2329.4	18.9	50.0	4.0		
	1420	BOUL	45	2328.5	2329.5	3	13.0	5.0		
	9400	TYKW	29	2330		60	14.0	7.0		
	3750	TYKW	29	2330		80	8.0	4.0		
	2000	TYKW	29	2330		80	8.0	4.0		
3	4995	BOUL	3	0000	0003	3.5	12.0	5.0		
	2695	PENT	8	0002.9	0003	.5	6.6	3.3		
	2695	BOUL	8	0003	0004	2.5	7.0	3.0		
	2800	OTTA	26	0007	0030		-9.2			
	1420	BOUL	3	0046.5	0049.5	11	3.0	1.0		
	9400	TYKW	5	0053	0059	11	4.0	2.0		
	3750	TYKW	45	0053	0058.5	10	9.0	1.0		
	4995	BOUL	3	0057	0058.5	4	7.0	3.0		
	2695	PENT	8	0057.5	0057.5		7.8			
	2695	BOUL	45	0058	0058.5	3	7.0	3.0		
	2695	PENT	8	0058.7	0058.7		9.8			
	9400	TYKW	28	0110	0140	55	15.0	8.0		
	3750	TYKW	28	0110	0140	54	8.0	3.0		
	2695	PENT	24	0110	0140	30	5.6	2.8		
	2000	TYKW	28	0110	0140	55	3.0	2.0		
	8800	PALE	23	0126.7	0216.2	81.1	39.0	23.0		
	2695	PENT	24	0140		10 D	5.6			
	606	MANI	41	0147.7	0148.3	9.8	5.2	1.6		
	1415	MANI	2	0152	0155.5	6.8	5.0	1.3		
	1415	PALE	1	0154.6	0155.4	2.1	5.5	1.7		
	8800	MANI	4	0202	0209.3	13.4	73.0	18.3		
	4995	MANI	4	0203	0209.4	14	52.0	9.7		
	3750	TYKW	45	0204	0209.5	26	50.0	15.0		
	2930	VORO	40	0204.6	0209.5	21.2	29.0			
	9400	TYKW	45	0205	0209.2	20	80.0	30.0		
	9300	IRKU	3	0205	0208	18	70.0	15.0		
	2000	TYKW	5	0205	0209.6	25	9.0	3.0		
	2695	MANI	4	0206.4	0209.6	8.5	18.0	8.0		
	8800	PALE	4	0207.4	0209.3	3.6	65.0	20.0		
	1415	MANI	9	0207.7	0208.2	1.3	130.0	68.0		
	1415	PALE	4	0207.8	0208.2	4.2	110.0	34.0		
	9400	TYKW	29	0225		35	22.0	22.0		
	3750	TYKW	29	0230		30	7.0	6.0		
	2000	TYKW	29	0230		30	2.0	2.0		
	9400	TYKW	45	0300	0317.7	30	190.0	35.0		
	3750	TYKW	45	0300	0318.4	30	100.0	25.0		
	2000	TYKW	45	0300	0318.5	23	100.0	25.0		
	650	GORK	23	0300.3E	0345	120 D	12.0			
	200	GORK	44	0300 E		400 D		60.0		
	100	GORK	44	0300 E		600 D		20.0		
	536	ONDR	41	0640		512	470.0D			
	260	ONDR	44	0640		512	235.0D			
	315	OWIN	44	0747	0951	526 D		40.0		
	29	UPIC	44	0847	0953	284				
	606	SGMR	44	0915 E	0951.8	579.2D	213.5			
	410	SGMR	44	0915 E	1100.6	905 D	418.6			
	245	SGMR	44	0915 E	0940.5	905 D	110.2			
	245	BOUL	44	1143 E	0863 D				3	
	200	HIRA	44	1940 E	0659	830 D	170.0	40.0		
	100	HIRA	44	1940 E	0646	830 D	200.0	20.0		

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JUL 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
3	9300 IRKU	1	0303	0305.5	6	27.0			
	500 HIRA	45	0304	0327.5	51	3600.0	2400.0		
	606 MANI	47	0305.4	0319.	49.7	6600.0	125.0		
	950 GORK	23	0306.8	0312.1	26.4	5.8			
	8800 MANI	46	0311.3	0318.4	13.9	170.0	45.7		
	4995 MANI	46	0311.3	0318.4	13.9	121.0	29.1		
	2695 MANI	46	0311.3	0318.4	12.2	90.0	20.0		
	1415 MANI	46	0311.5	0319.8	12.3	90.0	9.0		
	2930 VORO	40	0312.5	0318.3	14.7	83.0			
	8800 PALE	46	0313.6	0315.7	10.1	78.0	50.0		
	8800 PALE	46		0317.5		160.0			
	8800 PALE	46		0318.4		150.0			
	8800 PALE	46		0319.6		120.0			
	1415 PALE	46	0313.6	0318.5	29.9	84.0	30.0		
	1415 PALE	46		0319.8		100.0			
	9300 IRKU		0314	0316		79.0			
	9300 IRKU		0314	0317.7		172.0			
	9300 IRKU	45	0314	0318.4	15	160.0			
	9300 IRKU		0314	0319.5		121.0			
	650 GORK	46	0314.3	0314.6	2	17.0			
	650 GORK		0314.3	0315.9		27.0			
	1000 TYKW	45	0315	0319.7	15	25.0	5.0		
	1000 TYKW	5	0315	0420	180	9.0	3.0		
	950 GORK	3	0315.1	0316.1	1.8	5.8			
	950 GORK	46	0317.1	0319	3.9	75.0D			
	950 GORK		0317.1	0319.6		75.0D			
	650 GORK	4	0317.1	0318.7	3.2	1400.0D			
	500 HIRA	45	0318.4	0319	1.8	4900.0	1500.0		
	650 GORK	46	0320.8	0327.8	22.8	123.0			
	650 GORK		0320.8	0333.1		104.0			
	2000 TYKW	29	0323		165	10.0	5.0		
	950 GORK	4	0324	0326.1	3	8.0	2.3		
	9400 TYKW	29	0330		160	40.0	15.0		
	3750 TYKW	29	0330		160	25.0	10.0		
	2000 TYKW	45	0403	0404.7	2	13.0	3.0		
	1415 MANI	2	0403	0404.5	3.7	5.4	1.4		
	1000 TYKW	5	0403	0404.7	3	4.0	1.0		
	606 MANI	2	0403.8	0404.5	2	5.2	1.0		
	9400 TYKW	45	0416	0416.7	4	35.0	11.0		
	8800 MANI	4	0416.1	0416.7	4.9	23.8	5.5		
	8800 ATHN	3	0416.3	0417.2	3.3	16.3	4.9		
	606 MANI	40	0520.9	0524.2	8.1	16.6	2.6		
	1415 MANI	2	0523.7	0523.9	1.4	2.2	.9		
	650 GORK	3	0523.6	0524.2	.8	18.0	9.0		
	2000 TYKW	5	0550	0552	12	2.0	1.0		
	1415 MANI	2	0550.7	0553.8	6.6	3.2	.9		
	650 GORK	41	0550	0552.2	5.6	22.0			
	650 GORK		0550	0554.3		16.0			
	606 MANI	40	0550	0552.1	10.5	30.1	9.4		
	2695 MANI	2	0551.2	0551.9	5	4.0	1.0		
	1000 TYKW	45	0551	0554	14	3.0	1.0		
	950 GORK	1	0553	0553.7	2	4.5	1.5		
	9100 GORK	20	0632.5	0635.5	9.5	6.8	3.9		
	650 GORK	3	0632.6	0632.8	.6	9.5	4.7		
	200 GORK	6	0636	0637	2	150.0			
	1470 BERL	40	0700	0724.4	40	5.2			
	221 ABST	44	0700	0835.5	240	16.0			
	950 GORK	1	0709.2	0710.2	1.5	3.6	1.0		
	9500 BERL	22	0719	0732.3	24	7.0			
	9100 GORK	20	0719.5	0724.5	143.5	3.5	1.8		
	4995 MANI	2	0723.2	0724.5	2.2	4.9	1.0		
	3000 BERL	2	0723.5	0724.5	17	7.3	2.2		
	2695 MANI	2	0723.6	0724.5	1.8	8.0	2.0		
	1415 MANI	2	0723.6	0724.6	1.8	2.7	.9		
	950 GORK	1	0723.8	0724.5	2.6	5.0	2.0		
	650 GORK	41	0723.8	0724.5	4.9	35.0			
	650 GORK		0723.8	0729.9		4.7			
	606 MANI	4	0723.6	0724.6	2.4	65.0	10.4		
	510 POTS	45	0723.8	0724.3	1.2	500.0	110.0		
	260 ONDR	45	0723.5	0724.5	7	235.0D			
	234 POTS	45	0723.8	0724.5	1.4	100.0	10.0		
	113 POTS	41	0723.8	0728.2	5.8	400.0	10.0		
	100 GORK	41	0723.2	0724	6.8	200.0			
	100 GORK		0723.2	0727.3		200.0D			
	29 UPIC	45	0723.5	0724.5	6.5				
	3750 TYKW	5	0724	0724.3	2	5.0	2.0		
	2000 TYKW	5	0724	0724.6	3	5.0	2.0		
	1000 TYKW	5	0724	0724.3	1.5	5.0	1.0		
	550 KIEV	6	0724		1.6	137.0D			
	536 ONDR	45	0724	0725	6	265.0			
	500 HIRA	45	0724	0724.8	1.5	610.0	260.0		
	9500 BERL	21	0758	0923.5	137	28.0			
	9240 ARCE	28	0758		32.6				
	9100 GORK	47	0758	0836.5	183.5	3890.0	112.0		
	8800 ATHN	1	0758	0800.2	5.2	9.1	2.7		
	3100 CRIM	28	0802	0836	93	415.0	138.0		
	8800 ATHN	3	0805.3	0809.6	10.7	16.3	4.9		
	3000 BERL	21	0805	0923	149	19.0			
	650 GORK	23	0806.5E	0829.2	109	10.0			
	8800 MANI	4	0807.7	0808	2.8	11.0	3.7		

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JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
3	4995	MANI	4	0807.8	0808.1	2.6	10.7	2.9		
	4995	ATHN	3	0807.2	0808.2	9.3	10.3	3.0		
	3000	BERL	3	0807	0807.8	3	21.0			
	2695	MANI	4	0807.8	0808.1	1.3	14.0	5.0		
	2695	ATHN	3	0807.8	0808.2	1	12.6	3.8		
	1470	BERL	21	0807.5	0914.5	143	3.8			
	1470	BERL	3	0807.5	0807.6	.8	10.0			
	1415	MANI	4	0807.8	0808.1	.7	13.5	4.5		
	1415	ATHN	1	0807.8	0808.2	.8	8.5	2.6		
	950	GORK	3	0807.8	0808.2	.8	25.0	10.0		
	930	BORD	45	0807	0808	2	26.0	3.0		
	808	ONDR	45	0807.5	0808	1.5	120.0			
	650	GORK	3	0807.7	0808	.7	48.0	24.0		
	606	MANI	41	0807	0808	12.8	61.0	10.9		
	536	ONDR	45	0807.5	0808	3	95.0			
	510	POTS	45	0807.5U	0808 U	1 U	28.0	5.0		
	113	POTS	45	0807.8	0807.8	1	770.0	80.0		
	100	HIRA	45	0807.9	0808.1	1	900.0	300.0		
	100	GORK	6	0807.6	0808 U	1.5	200.0D			
	29	UPIC	45	0807.5	0808.5	2.5				
	9500	BERL	4	0808.8	0809.2	3.2	24.0			
	9300	IRKU	1	0808	0809.4	4	21.0			
	8800	ATHN	28	0816.5	0828.5	12	12.7	3.8		
	207	IZMI	6	0817	0817.3	1	200.0	70.0		
	4995	ATHN	28	0818.5	0828.7	10.2	6.2	1.9		
	29	UPIC	45	0820		23				
	260	ONDR	45	0823.5		40	235.0D			
	200	GORK	48	0823	0834.2	15.1	20000.0			
	224	POTS	45	0824 U	0833 U	187	175000.0D	65.0D		
	113	POTS	45	0824 U	0832.5	192	140000.0	240.0		
	9500	BERL	4	0825	0836 U	58	3600.0			
	1000	KIEL	45	0825	0936	37	5000.0	150.0		
	800	KIEL	45	0825	0933	36	4900.0	90.0		
	510	POTS	45	0825 U	0834 U	89	7000.0	35.0		
	240	KIEL	45	0825	0832	38	61000.0	900.0		
	228	HARS	45	0825	0834	20	1000.0	300.0		
	9300	IRKU	3	0826	0833	46	278.0D			
	1470	BERL	46	0826.2	0836.4	46	680.0			
	950	GORK	46	0826.3	0832	31	420.0D			
	950	GORK		0826.3	0832.5		1000.0D			
	950	GORK		0826.3	0835.3		4800.0			
	950	GORK		0826.3	0841.3		155.0			
	930	BORD	45	0826	0835	37	3650.0D	175.0		
	606	MANI	47	0826.2	0836.2	35.3	1840.0	162.0		
	600	KIEL	45	0826	0936	36	4500.0	100.0		
	500	HIRA	45	0826	0834.6	25	2200.0	350.0		
	808	ONDR	45	0827		28	680.0D			
	650	GORK	4	0827	0827.5	1.9	112.0			
	550	KIEV	48	0827.2	0848.1	35	342.0			
	536	ONDR	45	0827	0834.5	35	460.0			
	315	DWIN	45	0827.3	0833	35	750.0D			
	100	GORK	49	0827.1	0833.5	217	20000.0			
	8800	ATHN	47	0828.5	0836.5	14.5	3162.0U	1033.0U		
	4995	MANI	47	0828.3	0836.5	43.5	3100.0	415.0		
	4995	ATHN	47	0828.7	0836.7	15.8	378.0U	138.0U		
	3000	BERL	4	0828	0836	42	1100.0			
	2695	MANI	47	0828.3	0836.3	39.5	810.0	174.0		
	2695	ATHN	47	0828.7	0836.6	14.5	775.0U	232.5U		
	1420	KIEL	45	0828	0833	34	1900.0	50.0		
	1415	MANI	47	0828.3	0835.9	39.3	830.0	171.0		
	1415	ATHN	47	0828.7	0836.6	14.4	697.0U	209.1U		
	400	KIEL	45	0828	0834	95	19000.0	100.0		
	100	HIRA	45	0828		12	1000.0D	800.0D		
	8800	MANI	47	0829.8	0836.3	42.1	3900.0	430.0		
	650	GORK	46	0829.2	0831.6	22.2	157.0D			
	650	GORK		0829.2	0833.2		625.0			
	650	GORK		0829.2	0836.1		1900.0			
	207	IZMI	49	0829	0834	34	14800.0	3000.0		
	207	IZMI	48	0829	0834	15	14800.0	3000.0		
	9240	ARCE	47	0830.6		14.4				
	3700	SLOU		0831.5	U	44				
	221	ABST	49	0831.8	0835.5	9.5	59.0	20.0		
	650	GORK	46	0838.7	0939	3.3	19.0			
	650	GORK		0838.7	0940.8		37.0			
	100	GORK	24	0839	0913.7		103.0			
	207	IZMI	24	0841	0859.5	19	2400.0	300.0		
	8800	ATHN	30	0843	0843	78.8	105.0	31.5		
	2695	ATHN	30	0843.2	0843.2	76	32.6	9.8		
	1415	ATHN	30	0843.1	0843.1	78.3	12.7	3.8		
	4995	ATHN	30	0844.5	0844.5	80.9	43.3	13.0		
	9240	ARCE	30	0845		96				
	200	GORK	3	0853	0859.5	10	2000.0			
	200	GORK		0853	0900.3		2000.0			
	650	GORK	4	0859.8	0900.3	1.5	16.5			
	536	ONDR	45	0918.5	0929	11.5	65.0			
	650	GORK	41	0921.8	0922.7	4.9	4.7			
	650	GORK		0921.8	0925.9		19.0			
	950	GORK	40	0924.4	0925.6	8.6	11.0			
	1470	BERL	46	0925	0927.5	5	10.0			
	930	BORD	40	0925	0926.5	5	19.0	3.0		

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JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
3	207	IZMI	41	0925	0928	10	300.0			
	3100	CRIM	3	0935	0945	28	69.0D			
	200	GORK	41	0937.2	0937.6	7.3	150.0			
	200	GORK		0937.2	0941.4		450.0			
	1470	BERL	46	0938	0951.5	18	32.0			
	950	GORK	46	0938.7	0941	16.2	109.0			
	950	GORK		0938.7	0946.5		146.0			
	950	GORK		0938.7	0951.8		115.0			
	930	BORD	45	0938	0946	18	74.0	16.0		
	808	ONDR	45	0938.5	0952	18	180.0			
	207	IZMI	41	0938	0944.4	11.5	600.0			
	536	ONDR	45	0939		17.5	105.0			
	4995	ATHN	4	0940.7	0946.7	13.6	46.4	13.9		
	3000	BERL	46	0940	0946.3	18	103.0			
	2695	ATHN	4	0940.7	0946.7	13.6	67.8	20.3		
	1415	ATHN	4	0940.6	0946.8	13.6	19.1	5.7		
	9500	BERL	3	0943.5	0946.3	17	42.0			
	9240	ARCE	20	0944	0947	19				
	8800	ATHN	4	0944.3	0946.8	10.4	34.4	10.3		
	100	GORK	6	0944.2	0944.3	.4	600.0			
	650	GORK	4	0951.2	0952.2	4.2	186.0			
	9100	GORK	20	1044.5		75.5D				
	2695	PENT	20	1045	1100	70	3.6	1.8		
	650	GORK	41	1047.7	1048.3	6.2	4.7			
	650	GORK		1047.7	1052.9		7.8			
	536	ONDR	45	1047	1105	17	90.0			
	650	GORK	22	1054	1100.5	15	33.0			
	2695	SGMR	2	1148.5	1148.7	.8	3.0	.9		
	1470	BERL	1	1148.5	1148.8	.5	4.8	1.7		
	1415	SGMR	2	1148.7	1149	.6	3.8	1.2		
	7000	SAOP	20	1150.8		12.9	5.9			
	7000	SAOP	20	1212.4		22.1	14.3			
	9500	BERL	20	1217	1256.8	80	9.8			
	3000	BERL	40	1218	1246	63	15.0	5.1		
	3100	CRIM	1	1219	1221	21	3.0	1.0		
	2800	OTTA	20	1219	1221	15	2.4	1.2		
	8800	ATHN	1	1220	1222.2	6.3	5.1	1.5		
	4995	ATHN	1	1220	1221	4.7	6.6	2.0		
	2695	ATHN	1	1220	1221.2	4.4	5.4	1.6		
	650	GORK	41	1226.8	1234	15.2	11.7			
	650	GORK		1226.8	1240.7		7.0			
	1470	BERL	40	1230	1246.5	50	22.0	4.5		
	536	ONDR	45	1230		30	470.0D			
	7000	SAOP	22	1234 F		40	11.4			
	510	POTS	45	1237 U	1247 U	26	2300.0	40.0		
	410	SGMR	49	1237.8	1252.6	19.2	3940.0	1182.0		
	930	BORD	45	1238	1247.2	18	196.0	16.0		
	2695	SGMR	23	1239	1255.3	45.8	6.3	1.9		
	1415	SGMR	23	1239.2	1241.7	33.2	5.0	1.5		
	1415	ATHN	40	1239.9	1247.3	17.6	24.8	7.4		
	950	GORK	3	1239.1	1239.6	1.1	19.0	7.0		
	606	SGMR	47	1239	1246.7	18.1	305.0	261.0		
	606	SGMR	47		1247.6		870.0			
	550	KIEV	48	1239	1247.5U	18	374.0D			
	3100	CRIM		1240						
	2695	ATHN	40	1241.7	1247.3	28.2	5.4	1.6		
	960	PENN	45	1241	1247.4	18 D	80.0D			
	950	GORK		1241.7	1244.8		115.0			
	950	GORK		1241.7	1247.4		293.0			
	2800	OTTA	21	1242	1255	73	6.6	3.3		
	2700	PENN	45	1242.8	1246.4	15.2	12.6	1.0		
	1415	SGMR	46	1242.8	1246.5	5.5	26.9	8.4		
	1415	SGMR	46		1247.3		27.8			
	808	ONDR	45	1242.5	1247.5	13.5	280.0			
	650	GORK	46	1242	1246.5	14.5	157.0			
	650	GORK		1242	1247.5		496.0			
	113	POTS	41	1242 U	1247 U	10	200.0	4.0		
	4995	SGMR	20	1243.5	1253.9	26.5	3.2	1.6		
	1420	BOUL	45	1243 F	1246.5U	5 U	22.0U	5.0U		
	245	SGMR	6	1243.6	1246.5	14.6	66.2	19.9		
	8800	SGMR	20	1244.8	1256.8	22	4.6	2.3		
	2800	OTTA	40	1244	1246.5	11	15.0			
	2695	SGMR	46	1246.2	1246.3	1.4	15.6	4.7		
	2695	SGMR	46		1247.4		15.0			
	234	POTS	41	1246 U	1251.5U	12	120.0	3.0		
	2695	BOUL	45	1247	1248.5	2	15.0	6.0		
	315	DWIN	45	1249	1251.8	7	700.0	130.0		
	260	ONDR	45	1251	1252.5	7.5	160.0			
	950	GORK	40	1252.7	1255.1	3.3	12.0			
	2695	BOUL	45	1256	1258	2.5	6.0	2.0		
	2695	BOUL	3	1302.5	1304	3.5	5.0	2.0		
	1470	BERL	22	1405	1425.8	55 D	3.5			
	3000	BERL	22	1407	1453.3	53 D	9.5			
	9500	BERL	20	1408	1457.3	52 D	13.0			
	2800	OTTA	21	1410	1521	175	9.4	4.7		
	9240	ARCE	22	1413	1515.9	166				
	1415	ATHN	1	1423.7	1426.3	5.5	4.6	1.4		
	8800	ATHN	1	1425.6	1426.3	2.3	3.4	1.0		
	4995	SGMR	1	1425.7	1426	1.6	1.4	.3		
	4995	ATHN	1	1425.8	1426.3	2.8	3.3	1.0		

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3	2800	OTTA	1	1425.5	1426	1	2.6	1.3		
	2695	SGMR	1	1425.6	1426	.9	1.5	.3		
	2695	ATHN	1	1425.7	1426.3	2.2	1.8	.4		
	1415	SGMR	1	1425.9	1426.1	.5	1.2	.4		
	606	SGMR	2	1425.6	1426.1	.8	3.7	.7		
	7000	SAOP	23	1456.6	1516.3	38.3	28.7			
	7000	SAOP	22	1456.6		38.3	7.1			
	18	MCMA	41	1456	1517	59			3	
	930	BORD	45	1507	1507.2	1	11.0	2.0		
	1415	ATHN	23	1511.2	1518.2	17.5	17.4	5.2		
	606	SGMR	46	1511.7	1516.1	14	18.9	15.4		
	606	SGMR	46		1518.8		51.2			
	4995	BOUL	45	1512.5	1515.5	9.5	40.0	10.0		
	2800	OTTA	46	1512	1515.5	9	65.0	16.2		
	2695	SGMR	46	1512.2	1514.3	8.6	51.0	23.6		
	2695	SGMR	46		1515.5		78.6			
	2695	ATHN	46	1512.3	1515.7	17.5	73.4	22.0		
	1415	SGMR	46	1512.1	1515.5	25.2	10.6	10.2		
	1415	SGMR	46		1525.1		34.1			
	29	UPIC	45	1512	1514	11				
	15400	SGMR	46	1513.1	1514	17.4	14.3	5.2		
	15400	SGMR	46		1515.5		17.4			
	8800	SGMR	46	1513.5	1514.4	11.8	13.4	4.5		
	8800	SGMR	46		1515.6		15.1			
	8800	ATHN	45	1513.6	1515.5	13.6	17.0	3.4		
	4995	SGMR	46	1513.3	1514.2	13.8	17.3	8.2		
	4995	SGMR	46		1515.6		27.4			
	4995	ATHN	46	1513.6	1515.7	16.6	26.4	7.9		
	2695	BOUL	45	1513	1517.5	9	49.0	17.0		
	1420	BOUL	40	1513.5	1522	21	20.0	5.0		
	1420	BOUL	40	1513.5	1523	21	20.0	5.0		
	960	PENN	45	1513.4	1518.1	13.8	28.0	2.4		
	930	BORD	40	1513	1518	8	39.0	7.0		
	410	SGMR	6	1513	1520.5	12.5	25.6	7.7		
	7000	SAOP	45	1514.2	1516.3	3.2	21.4	1.0		
	2695	SGMR	29	1520.8	1520.8	47.9	4.2	1.3		
	1415	ATHN	40	1521.9	1523.2	1.8	28.5	5.7		
	18	MCMA	41	1601	1614	21				
	7000	SAOP	32	1700		21.6	7.1		3	
	2800	OTTA	20	1720	1730	30	2.4	1.2		
	2695	BOUL	45	1734.5	1738	7	44.0	15.0		
	8800	SGMR	22	1804.2	1825.2	74	15.6	9.3		
	2695	SGMR	22	1804.7	1825.2	73.4	15.9	9.5		
	4995	SGMR	22	1805.7	1825	80.8	18.0	10.8		
	2800	OTTA	21	1805	1848	90	4.6	2.3		
	410	SGMR	41	1809.8	1841	36.2	90.2	18.0		
	2800	OTTA	1	1810	1813	6	5.0	2.5		
	1415	PALE	41	1810.5	1826.2	32.8	8.7	2.4		
	606	SGMR	41	1810.2	1823.4	44	217.0	43.3		
	8800	PALE	22	1811	1825.1	42.4	15.2	4.3		
	4995	BOUL	3	1811	1813.5	3.5	7.0	3.0		
	1420	BOUL	3	1811	1812.5	2.5	2.0	1.0		
	1415	SGMR	41	1811.3	1826.2	32.9	11.7	2.3		
	18	MCMA	42	1811	1824	34			3	
	18	BOUL	42	1811	1823	13			2	
	7000	SAOP	23	1812.2	1826.1	64.4	19.1			
	2695	BOUL	3	1812	1813.5	3.5	6.0	2.0		
	4995	BOUL	45	1822.5	1825	5	12.0	4.0		
	1420	BOUL	45	1822.5	1826.5	6	6.0	2.0		
	7000	SAOP	20	1823.2	1826.1	5.9	10.7			
	2800	OTTA	45	1823	1825	10	12.6	3.2		
	2695	BOUL	45	1823.5	1826	7	13.0	3.0		
	18	BOUL	42	1842	1839	9			1	
	2800	OTTA	40	1836	1841	17	7.6			
	1420	BOUL	45	1837.5	1839	4.5	7.0	2.0		
	2695	BOUL	8	1840.5	1842	3.5	9.0	4.0		
	4995	BOUL	3	1940	1941.5	2.5	9.0	3.0		
	2800	OTTA	21	2015	2050	90	4.8	2.4		
	8800	PALE	22	2021.1	2027.8	11.3	21.0	10.1		
	1415	PALE	2	2026.1	2027.3	3.6	1.5	.5		
	8800	PALE	41	2028.9	2030.3	16.8	150.0	29.0		
	18	BOUL	41	2036	2041	9			1	
	18	MCMA	48	2037	2042	8			3	
	2800	OTTA	2	2039.5	2040	2	9.8	4.8		
	2695	BOUL	8	2041	2041.5	2.	9.0	3.0		
4	9400	TYKW	5	0007	0110	90	18.0	7.0		
	3750	TYKW	5	0007	0016.6	40	6.0	2.0		
	8800	PALE	22	0015.8	0020.1	10.2	9.3	5.6		
	1000	TYKW	45	0018	0019.8	6	3.0	1.0		
	606	MANI	40	0018.9	0019.7	5.2	160.0	18.5		
	2695	PENT	8	0019.1	0019.1		5.8			
	2000	TYKW	45	0019	0019.2	2	4.0	1.0		
	1415	MANI	2	0019.1	0019.2	1.9	4.7	.9		
	1415	PALE	1	0019	0019.5	1.3	2.3	.7		
	500	HIRA	45	0019.4	0019.7	5	790.0	170.0		
	2930	VORO	40	0050	0108	30	10.0			
	2695	PENT	21	0052	0105	38	6.2	3.1		
	8800	PALE	40	0053.3	0056.6	36.7	43.7	13.1		
	3750	TYKW	45	0055	0056.8	45	14.0	4.0		

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4	9400 TYKW	5	0056	0056.9	4	33.0	8.0		
	9300 IRKU	1	0056	0056.8	3	42.0			
	8800 MANI	4	0056.2	0056.9	19.8	41.6	5.4		
	4995 BOUL	45	0056	0056.5	19.5	35.0	7.0		
	4995 MANI	4	0056.2	0056.9	19.8	26.4	3.3		
	2695 MANI	4	0056.2U	0056.9U	17.1U	31.7U	2.9U		RFI
	2695 PENT	40	0056	0057	16	29.0			
	2695 BOUL	40	0056.5	0058	17.5	29.0	6.0		
	2000 TYKW	45	0056	0111	44	31.0	2.0		
	1420 BOUL	40	0056	0106.5	34	9.0	2.0		
	1415 MANI	41	0056.2	0107.3	36.8	14.1	.9		
	1415 PALE	40	0056.2	0106.2	32.8	11.6	3.5		
	606 MANI	41	0056.2	0130.4	36.8	21.2	1.1		
	100 HIRA	45	0056	0056.8	2.5	600.0	100.0		
	1000 TYKW	5	0108.5	0108.8	.5	14.0	4.0		
	9400 TYKW	5	0152	0155	10	4.0	2.0		
	9400 TYKW	5	0240	0310	170	20.0	6.0		
	3750 TYKW	5	0240	0315	170	9.0	4.0		
	2000 TYKW	5	0240	0320	170	3.0	1.0		
	1000 TYKW	5	0300	0320	50	2.0	1.0		
	200 GORK	44	0300 E		600 D		15.0		
	100 GORK	44	0300 F		600 D		10.0		
	260 ONDR	44	0622	0632.5	21.5	80.0			
	221 ABST	44	0700	0823.5	240	7.0			
	260 ONDR	44	0720	1053.5	393	45.0			
	536 ONDR	41	0800	0958	353	70.0			
	606 SGMR	44	0915 E	1928.7	904 D	82.8			
	410 SGMR	44	0915 F	2220	904 D	59.2			
	245 SGMR	44	0915 E	1120	904 D	100.0			
	200 HIRA	44	1940 F	2110	830 D	80.0	30.0		
	2000 TYKW	40	0404	0406.3	6	3.0	0.5		
	207 IZMI	49	0608.3	0647.5	72.5	7300.0			
	207 IZMI	24	0608.3	0643.5	38.2	600.0	110.0		
	9400 TYKW	28	0610	0612.2	30	17.0	6.0		
	1000 TYKW	5	0610	0612.2	7	2.0	1.0		
	8800 MANI	3	0611.5	0612.2	3.5	15.0	3.7		
	8800 ATHN	2	0611.7	0612.7	2.3	13.4	4.0		
	4995 MANI	1	0611.5	0612.3	3.5	4.5	1.1		
	4995 ATHN	1	0611.7	0612.6	4	2.0	.6		
	3750 TYKW	5	0611	0612	4	2.0	1.0		
	2695 MANI	1	0611.5	0612.2	3.5	1.9	1.0		
	2695 ATHN	1	0611.4	0612.6	2	3.6	1.1		
	2000 TYKW	5	0611	0612.2	4	3.0	1.0		
	1415 MANI	1	0611.5	0612.2	3.5	1.4	.5		
	1415 ATHN	1	0611.7	0612.7	1.5	.9	.3		
	650 GORK	41	0611.5	0612.5	7.8	63.0			
	650 GORK		0611.5	0616.2		9.0			
	606 MANI	40	0611.5	0611.9	7.6	81.0	7.5		
	29 UPIC	45	0611.5	0612	4.5				
	100 GORK	41	0615.8	0616.2	51.3	400.0			
	100 GORK		0615.8	0628.3		400.0			
	100 GORK		0615.8	0635.5		400.0			
	100 GORK		0615.8	0643.7		4000.0			
	100 GORK		0615.8	0647.9		70000.0			
	650 GORK	23	0621.8	0742	151.7	47.0	10.5		
	113 POTS	45	0624 U	0635 U	76	14000.0	100.0		
	808 ONDR	45	0625	0626	3	110.0			
	29 UPIC	45	0631.5	0632.5	5				
	606 MANI	47	0635.1	0647.3	30.1U	9500.0	370.0U		WX
	6100 KISV	47	0639		39	239.0D			
	9500 BERL	4	0640 U	0647.9	185	4100.0	1140.0		
	9400 TYKW	47	0640	0648.2	20	5750.0	500.0		
	9100 GORK	47	0640	0648	78.5	5000.0			
	8800 ATHN	47	0640.8	0648.2	14.1	3115.0	935.0		
	3000 BERL	4	0640 U	0647.8	180	1900.0	350.0		
	1470 BERL	4	0640 U	0648.6	165	975.0	250.0		
	800 KIEL	45	0640	0648	15	5000.0	100.0		
	9300 IRKU	3	0641	0648.1	19	5040.0			
	4995 ATHN	47	0641.3	0648.2	13.6	661.0U	198.0U		
	3750 TYKW	47	0641	0648.9	19	1800.0	225.0		
	3100 CRIM	47	0641	0648	192	532.0	177.0		
	2695 MANI	47	0641.1	0648.3	22.2U	840.0	260.0U		WX
	2695 ATHN	47	0641.1	0648.7	13.6	1750.0	583.0		
	2000 TYKW	47	0641	0648.1	19	1060.0	135.0		
	1420 KIEL	45	0641	0648	14	6500.0	80.0		
	1415 MANI	47	0641.1	0648	21.6U	2550.0	112.0U		
	1415 ATHN	47	0641.7	0648.5	13.6	2356.0	707.0		
	1000 TYKW	45	0641	0647.6	24	625.0	70.0		
	950 GORK	23	0641	0656	110	10.0			
	600 KIEL	45	0641	0646	14	14000.0	70.0		
	234 POTS	45	0641 U	0647 U	55	12000.0	150.0		
	8800 MANI	47	0642.9	0648.3	19.8U	2600.0	550.0U		WX
	4995 MANI	47	0642.9	0648.4	19.8U	1440.0	435.0U		WX
	1000 KIEL	45	0642	0648	13	15000.0	100.0		
	808 ONDR	45	0642.5	0648	13.5	670.0			
	510 POTS	45	0642 U	0647 U	24	14000.0	140.0		
	400 KIEL	45	0642	0645	36	6100.0	50.0		
	240 KIEL	45	0642	0648	43	25000.0	230.0		
	29 UPIC	45	0642		9				
	950 GORK	46	0643.3	0646.3	12	250.0			

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4	950	GORK		0643.3	0647.2		1240.0			
	950	GORK		0643.3	0647.8		680.0			
	650	GORK	46	0643.2	0644.2	11.7	275.0			
	650	GORK		0643.2	0647.8		2760.0			
	536	ONDR	45	0643	0651.5	36	375.0			
	500	HIRA	45	0643		23		140.0		
	500	HIRA		0643	0647.7		4800.0			
	500	HIRA		0643	0651.5		2100.0			
	260	ONDR	45	0643		37	235.0D			
	228	HARS	45	0643	0647	15	600.0	250.0		
	200	HIRA	45	0643.2		12	350.0D	250.0D		
	200	GORK	41	0643.1	0644	8.6	200.0D			
	200	GORK		0643.1	0648		2500.0D			
	200	GORK		0643.1	0651.6		6000.0			
	3700	SLOU	47	0646 U	0648 U	7	1960.0D			
	207	IZMI	48	0647	0647.5	2.3	7300.0	2000.0		
	100	HIRA	45	0648	0650 U	3.5	1000.0D	700.0D		
	207	IZMI	48	0650.8	0651	1.2	800.0	400.0		
	207	IZMI	24	0652		31		80.0		
	8800	ATHN	29	0654.9	0654.9	44.9	85.2	25.6		
	4995	ATHN	29	0654.9	0654.9	47.4	9.8U	2.9U		
	2695	ATHN	29	0654.7	0654.7	47.4	40.0	12.0		
	1415	ATHN	29	0655.3	0655.3	40	17.8	5.3		
	550	KIEV	24	0656 E	0740 U	57	13.0			
	9400	TYKW	29	0700		55	36.0	15.0		
	3750	TYKW	29	0700		55	12.0	4.0		
	2000	TYKW	29	0700		55	12.0	4.0		
	1000	TYKW	29	0705		40	3.0	1.0		
	29	UPIC	45	0712	0722	60				
	536	ONDR	45	0718	0740	42	75.0			
	808	ONDR	45	0720	0743.5	71	130.0			
	606	MANI	22	0720.3	0739.7	44.9	42.6	15.6		
	930	BORD	41	0726	0729.5	44	84.0	4.0		
	9500	BERL	3	0756	0756.2	3.5	22.0			
	9400	TYKW	5	0756	0756.4	3	13.0	4.0		
	8800	ATHN	1	0756	0756.5	3.5	10.0	3.0		
	1415	ATHN	1	0758.9	0759.8	1.3	1.8	.5		
	6100	KISV	3	0759	0759.4	2	3.0			
	4995	ATHN	1	0759.3	0759.7	1.2	2.0	.6		
	3750	TYKW	45	0759.5	0759.6	1.5	5.0	1.0		
	3000	BERL	4	0759.2	0759.8	1.3	9.7			
	2695	ATHN	1	0759.3	0759.7	.9	3.6	1.1		
	2000	TYKW	45	0759.5	0759.9	1.5	5.0	2.0		
	1470	BERL	2	0759	0759.8	1.8	3.6			
	8800	ATHN	2	0803.5	0806.5	8.2	36.7	11.0		
	6100	KISV	41	0803.1	0806.3	11	23.0			
	4995	ATHN	2	0803.6	0806.4	8.5	22.5	6.8		
	3750	TYKW	45	0803.5	0806.6	10	13.0	4.0		
	3000	BERL	40	0803	0806.5	14	13.0			
	9400	TYKW	45	0804	0806.6	8	27.0	7.0		
	9100	GORK	21	0804	0808	81.5	6.7	3.3		
	9500	BERL	3	0805	0806.4	3	35.0			
	9300	IRKU	1	0806	0806.6	3	45.0			
	9100	GORK	3	0806	0806.5	2	27.0	13.0		
	2000	TYKW	5	0806	0806.5	1	4.0	1.0		
	100	GORK	6	0834.5	0836.9	3.6	30.0			
	3100	CRIM	45	0904	0905	10	3.0	1.0		
	3100	CRIM		0904	0907		5.0	2.0		
	221	ABST	48	0921.5	0922.2	1.2	19.0	7.0		
	3100	CRIM	24	1000	1131		7.0			
	9100	GORK	22	1002	1109.5	118 D	17.0			
	650	GORK	2	1006.9	1007.5	2.2	5.2	2.6		
	29	UPIC	45	1007	1008.5	2				
	29	UPIC	45	1021	1021.5	1				
	15400	SGMR	4	1103.9	1115.2	14.6	47.4	14.2		
	9500	BERL	40	1103.5	1109.2	18	12.0	5.6		
	8800	SGMR	4	1103.9	1104.2	9.2	12.6	3.8		
	6100	KISV	47	1103.2	1104.4	14	117.0			
	4995	SGMR	4	1103.9	1104.3	8.6	15.8	4.8		
	3000	BERL	40	1103.5	1104.4	24	15.0	2.9		
	2695	SGMR	4	1103.8	1104.5	10.7	17.4	5.2		
	2695	ATHN	4	1103.9	1104.6	17.9	17.9	5.4		
	1470	BERL	4	1103.8	1104.4	6.7	12.0	3.6		
	1415	SGMR	4	1103.9	1104.4	2.2	11.7	3.5		
	1415	ATHN	2	1103.7	1104.5	2.8	8.1	2.1		
	808	ONDR	45	1103.5	1104.5	2	90.0			
	650	GORK	4	1103	1104.5	2.4	20.0			
	606	SGMR	2	1103	1104.4	2.5	9.0	3.6		
	410	SGMR	6	1103.8	1104.3	4.4	18.0	5.4		
	8800	ATHN	4	1104	1104.5	17.2	13.6	4.1		
	4995	ATHN	4	1104	1104.5	24.3	15.3	4.6		
	3100	CRIM	3	1104	1105	12	10.0	3.0		
	2800	OTTA	4	1104	1104.5	1.5	18.0	9.0		
	950	GORK	3	1104	1104.5	1.6	10.6	3.0		
	29	UPIC	45	1104	1105.5	3.5				
	930	BORD	45	1105	1105.5	2	15.0	3.0		
	3700	SLOU	8	1112 U	1112 U	.7	900.0			
	35000	SGMR	47	1114.7	1115.2	1.5	848.0	254.4		
	10700	PENN	1	1114.9	1115.1	.8	6.5	2.2		
	1900	SLOU	3	1115	1115.3	1	248.0			

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4	7000 SAOP	22	1133 E		84	23.5			
	100 GORK	6	1157.2	1158	3.2	35.0			
	9400 HUAN	20	1159.8	1201.1	12	11.8	1.7		
	650 GORK	22	1207.3	1218	13.1	2.2	1.0		
	2800 OTTA	41	1217.5	1218	2	24.0			
	2800 OTTA	8	1217.5	1217.5		20.0			
	2800 OTTA	8	1218	1218		24.0			
	29 UPIC	45	1218	1219	4				
	2800 OTTA	8	1219	1219		16.0			
	650 GORK	22	1243.9	1243.4	19	5.2	2.0		
	7000 SAOP	28	1309		41.6	30.6			
	10500 RERN	45	1314	1354.3	90	4180.0			
	15400 SGMR	28	1315	1351.6	36.6	6.5	3.3		
	4995 BOUL	3	1316	1317.5	2.5	15.0	5.0		
	4995 SGMR	28	1316.8	1345.6	35	14.8	7.4		
	9240 ARCE	28	1317.4		34.7				
	8800 SGMR	28	1317.1	1351.7	34.6	37.8	18.9		
	2695 SGMR	28	1319.1	1352.6	33.5	2.7	1.4		
	4995 BOUL	3	1325	1326.5	3.5	7.0	2.0		
	29 UPIC	45	1335	1336	2				
	8800 ATHN	28	1339.9	1351.5	11.6	32.3	19.4		
	9500 BERL	46	1340	1353.8	92	3270.0	700.0		
	4995 ATHN	28	1340.7	1351.9	9.2	9.1	5.5		
	3000 BERL	46	1340	1353.9	108	2100.0	150.0		
	113 POTS	45	1342 U	1353 U	270 D	200000.0			
	29 UPIC	45	1342.5		77.5				
	10700 PENN	47	1343.8	1354.2	47	2745.0	400.0		
	1470 BERL	46	1344	1420.3	112	2000.0	500.0		
	2800 OTTA	24	1345	1349	4	3.6	1.8		
	9400 HUAN	28	1348.2	1351.7	3.5	26.3	14.6		
	4995 BOUL	47	1349.5	1355	103	1617.0	192.0		
	2800 OTTA	24	1349		720 D	3.6			
	35000 SGMR	47	1351.6	1354	23.4	7081.0	2832.0		
	35000 SGMR	47		1356.7		3946.0			
	15400 SGMR	47	1351.6	1354.1	26.4	4124.0	1650.0		
	15400 SGMR	47		1356.7		3846.0			
	9400 HUAN	47	1351.7	1352.8	16	333.8	569.9		
	9400 HUAN		1351.7	1353.2		1583.4			
	9400 HUAN		1351.7	1354.2		1971.0			
	9400 HUAN		1351.7	1356.8		1938.2			
	8800 SGMR	47	1351.7	1354.3	28.3	4886.0	1954.0		
	8800 SGMR	47		1406		986.0			
	8800 ATHN	47	1351.5	1354.3	40.5	4950.0	1485.0		
	7000 SAOP	45	1351.5	1354.4	69.6	3326.0	231.6		
	4995 SGMR	47	1351.8	1354.3	34.3	3329.0	1332.0		
	4995 SGMR	47		1405.9		714.0			
	4995 ATHN	47	1351.9	1354.5	41.1	8600.0	2580.0		
	1900 SLOU	47	1351 U		21	3600.0D			
	9240 ARCE	46	1352.1	1354	16.1				
	9240 ARCE		1352.1	1354	4.2				
	9240 ARCE		1356.3	1356.7	4.3				
	9240 ARCE		1400.6	1401.5	3.8				
	9240 ARCE		1404.4	1406.2	3.8				
	2800 OTTA	47	1352.5	1354	67.5	1370.0	514.0		
	2695 SGMR	47	1352.1	1354.3	63.4	1686.0	674.0		
	2695 SGMR	47		1414.7		846.0			
	2695 ATHN	47	1352.6	1354.5	40.4	1710.0	513.0		
	1420 KIEL	45	1352	1422	66	800000.0	5000.0		
	1415 SGMR	47	1352.5	1414.8	59	57190.01	7150.0		
	1415 ATHN	47	1352.7	1420.5	53.9	51000.01	5300.0		
	1415 ATHN	47	1352.7	1420.5	53.9	51000.0	5300.0		
	1000 KIEL	45	1352	1423	128	260000.0	2500.0		
	960 PENN	47	1352.8		150 D	560.0D			
	400 KIEL	45	1352	1352	181	18000.0	100.0		
	315 DWIN	45	1352.2	1356	135 D	800.0D			
	240 KIEL	45	1352	1353	128	39000.0	250.0		
	234 POTS	45	1352 U	1408 U	260 D	105000.0			
	7100 SLOU	47	1353	1354	3 U	8436.0			
	3700 SLOU	47	1353 U	U	10 U	2000.0D			
	2695 BOUL	47	1353	1355.5	119	847.0	122.0		
	1420 BOUL	47	1353	1420.5	130.5	3585.0	518.0		
	930 BORD	45	1353		124	3650.0D			
	808 ONDR	45	1353		177.5	680.0D			
	800 KIEL	45	1353	1419	177	250000.0	3000.0		
	606 SGMR	47	1353	1415.3	52.3	38950.01	5580.0		
	606 SGMR	47		1425.6		37330.0			
	600 KIEL	45	1353	1414	177	49000.0	700.0		
	550 KIEV	49	1353	1415.5	190	18800.0			
	536 ONDR	45	1353		190	470.0D			
	510 POTS	45	1353 U	1415 U	259 D	7000.0			
	410 SGMR	49	1353	1413.6	184.8	18000.0	5400.0		
	260 ONDR	45	1353		175	235.0D			
	245 SGMR	49	1353	1408.5	149.6	8170.0	3268.0		
	228 HARS	45	1353	1408	30	1600.0	750.0		
	18 MCMA	41	1353	1443	67			3	
	9400 HUAN	29	1407.7	1407.7	45.7	282.5	86.0		
	9240 ARCE	29	1408.2		63				
	15400 SGMR	29	1418	1418	72	104.0	41.6		
	8800 SGMR	29	1420	1420	48.6	100.8	40.3		
	4995 SGMR	29	1426.1	1426.1	84.9	108.4	43.3		

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4	10700 PENN	29	1430.8	1430.8	75.6	75.5	37.8		
	8800 ATHN	29	1432	1432.	60.8	81.6	24.5		
	4995 ATHN	29	1433	1433	61.3	88.9	26.7		
	2695 ATHN	29	1433	1433	61.5	234.5	70.4		
	606 SGMR	29	1445.3	1445.3	132.4	1190.0	384.0		
	1415 ATHN	29	1446.6	1446.6	47.2	57.5	17.3		
	1415 SGMR	29	1451.5	1451.5	42	46.5	18.6		
	2695 SGMR	29	1456	1456	56.1	26.4	10.6		
	2800 OTTA	30	1500	1500	30	15.0	6.0		
	2800 OTTA	1	1520	1522	9	2.4	1.2		
	7000 SAOP	20	1521.5		3.4	2.2			
	7000 SAOP	31	1524.3		3.9	3.3			
	9240 ARCE	22	1531	1734.3	165				AT SUNSET
	7000 SAOP	32	1540.1		26.2	5.7			
	9400 HUAN	23	1602.3	1702.3	100.3	31.5	16.0		
	9500 BERL	21	1605	1729.5	125 D	35.0			
	1470 BERL	21	1607	1726	123 D	4.6			
	10700 PENN	40	1609.5		29.3				
	3000 BERL	21	1615	1729	115 D	19.0			
	7000 SAOP	23	1617.5	1734.5	115.4	42.5			
	7000 SAOP	22	1617.5		115.4	21.8			
	2800 OTTA	23	1619	1730	230	14.0	4.6		
	9500 BERL	3	1620	1620.2	1	21.0			
	3000 BERL	3	1620	1620.3	.7	7.5			
	2800 OTTA	8	1620	1620.2	.5	4.0	2.0		
	9500 BERL	4	1627.5	1628	3	23.0			
	1470 BERL	1	1635	1635.4	.6	5.0			
	1415 SGMR	41	1635.4	1758	87.6	218.0	65.4		
	4996 SGMR	22	1636.7	1734	73.3	63.4	31.7		
	2695 SGMR	23	1637.8	1733.8	85.2	46.8	23.4		
	10700 PENN	20	1640.5	1727.3	332	32.5	12.5		
	18 MCMA	41	1640	1646	8			1	
	8800 SGMR	22	1641.5	1733.9	65.7	43.7	21.8		
	1470 BERL	46	1641	1644	6	4.6			
	15400 SGMR	22	1642	1733.7	62.2	11.0	5.5		
	10500 BERN	4	1642.2	1645.4	4	25.0			
	9500 BERL	4	1642	1644.5	5.5	44.0U			
	9400 HUAN	20	1642.4	1644.9	6.2	30.2	11.7		
	8800 ATHN	4	1642.2	1645.1	13	37.2	11.2		
	7000 SAOP	4	1642.5	1644.4	5.1	19.1	9.6		
	4995 ATHN	4	1642	1645.1	13.2	19.2	5.8		
	10700 PENN	3	1643.4	1645	8.6	18.6	3.7		
	3000 BERL	4	1643	1644.5	4	8.3U			
	2695 SGMR	41	1643.6	1722.1	74.8	176.4	52.9		
	2695 PENT	45	1643.5	1645	3.5	6.4	2.1		
	2695 ATHN	2	1643.7	1645.3	3.3	4.8	1.4		
	960 PENN	45	1643.6	1646.6	3.8	53.7	3.0		
	8800 PALE	40	1644.5	1734.8	79.1	36.7	11.0		
	960 PENN	40	1652.6		21.2				
	1415 PALE	46	1657.5	1720.6	65.7	70.0	33.4		
	1415 PALE	46		1757.8		167.0			
	1470 BERL	46	1702	1711.8	11	40.0			
	1420 BOUL	45	1702.5	1706.5	11.5	42.0	7.0		
	1420 KIEL	45	1702	1707	12	150.0	30.0		
	2800 OTTA	40	1703	1712.1	11	36.0			
	2695 BOUL	45	1703	1713	15.5	31.0	9.0		
	3000 BERL	3	1706	1706.8	1.5	91.0			
	18 BOUL	41	1706	1754	53			2	
	245 SGMR	6	1707.5	1729.7	36.5	137.0	41.1		
	18 MCMA	42	1707	1723	58			2	
	240 KIEL	45	1708	1832	112	750.0	30.0		
	3000 BERL	3	1711.5	1711.8	.5	21.0			
	410 SGMR	7	1714.4	1735	27.6	264.0	79.2		
	4995 BOUL	3	1716.5	1720	7.5	20.0	7.0		
	1470 BERL	4	1716	1720.9	9.5	59.0			
	400 KIEL	45	1716	1722	9	240.0	40.0		
	10700 PENN	3	1717.8	1719	6	14.3	6.4		
	9500 BERL	4	1717	1719.7	5.5	44.0			
	3000 BERL	46	1717	1720	7	49.0			
	2695 BOUL	45	1717.5	1718	7	87.0	10.0		
	1420 BOUL	45	1717.5	1720.5	6	42.0	12.0		
	800 KIEL	45	1717	1722	8	700.0	80.0		
	9400 HUAN	20	1718	1719.8	5.1	17.1	7.0		
	7000 SAOP	4	1718.3	1720.3	4.6	9.6	4.8		
	2800 OTTA	4	1718	1720	6	32.0	16.0		
	1420 KIEL	45	1718	1722	6	120.0	50.0		
	1000 KIEL	45	1718	1722	5	250.0	50.0		
	960 PENN	45	1718.2	1722.1	6	138.0	16.6		
	606 SGMR	47	1718.2	1731.9	19.4	3310.0	1038.0		
	606 SGMR	47		1733.6		9460.0			
	600 KIEL	45	1718	1722	7	500.0	100.0		
	1420 KIEL	45	1726	1731	10	200.0	50.0		
	960 PENN	45	1726.6	1733.6	8.9	140.0D	31.3		
	1000 KIEL	45	1727	1732	9	550.0	60.0		
	800 KIEL	45	1727	1731	10	14000.0	300.0		
	2695 BOUL	3	1728	1735	12	13.0	5.0		
	1470 BERL	46	1728	1730.4	7	39.0			
	1420 BOUL	45	1728	1730	8	37.0	6.0		
	400 KIEL	45	1728	1735	11	400.0	50.0		
	4995 BOUL	4	1730.5	1733.5	4.5	50.0	15.0		

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4	600	KIEL	45	1730	1734	8	7000.0	200.0		
	7000	SAOP	4	1731.9	1734.5	6.2	25.3	12.6		
	3000	BERL	4	1731	1733.8	5	57.0			
	2800	OTTA	4	1731.5	1734	5.5	33.0	13.0		
	10700	PENN	3	1732.6	1734.2	4.4	14.3	6.5		
	9500	BERL	4	1732.5	1733.6	2.8	47.0			
	9400	HUAN	20	1732	1733.8	4	21.0	8.7		
	1420	BOUL	45	1751.5	1757.5	9	57.0	12.0		
	3000	BERL	3	1752	1752.2	.7	26.0U			
	2800	OTTA	41	1752	1755	8	51.0			
	2695	BOUL	45	1752.5	1757	12.5	28.0	10.0		
	1470	BERL	4	1752	1752.2	1	13.0U			
	1420	KIEL	45	1752	1759	8	260.0	60.0		
	960	PENN	41	1752	1755.1	6.8	67.8			
	3000	BERL	4	1753.5	1754.6	2.5	32.0U			
	1470	BERL	4	1753.5	1755	2.7	48.0U			
	3000	BERL	4	1757	1757.5	2	24.0U			
	1470	BERL	4	1757	1758	3	120.0U			
	7000	SAOP	45	1812.8	1848.8	66.9	316.7	50.5		
	1415	PALE	47	1815.2	1824.2	52.6	620.0	550.0		
	1415	PALE	47		1848		1800.0			
	18	MCMA	42	1815	1823	75			2	
	18	BOUL	41	1816	1917	87			2	
	15400	SGMR	46	1817.7	1821.1	19.7	494.0	197.6		
	15400	SGMR	46		1826.6		167.7			
	10700	PENN	45	1817.6	1821.3	15.2	234.0	81.1		
	8800	SGMR	46	1817.8	1821.2	24.2	430.0	129.0		
	8800	SGMR	46		1826.7		167.6			
	4995	SGMR	46	1817.9	1821.1	25.1	182.5	73.0		
	4995	SGMR	46		1826.7		104.8			
	9400	HUAN	3	1818.3	1821.2	16.5	362.7	68.0		
	8800	PALE	46	1818.3	1821.2	49.5	300.0	100.0		
	8800	PALE	46		1847.3		270.0			
	4995	BOUL	45	1818.5	1847.5	60.5	244.0	91.0		
	1900	SLOU	45	1818	1820.9	11	608.0			
	2800	OTTA	47	1819.2	1823.1	16.8	706.0	120.0		
	2695	SGMR	47	1819.3	1821.3	20.7	517.0	173.0		
	2695	SGMR	47		1824.3		577.0			
	1420	BOUL	45	1819.5	1894	16	177.0	41.0		
	1415	SGMR	46	1819.5	1824.3	15.7	367.0	110.0		
	1415	SGMR	46		1833.5		347.0			
	606	SGMR	47	1819.5	1891	17	1560.0	468.0		
	606	SGMR	47		1833.3		580.0			
	606	SGMR	47		1849.3		1560.0			
	600	KIEL	45	1819	1832	21	2000.0	180.0		
	2695	BOUL	45	1820	1825.5	63.5	407.0	78.0		
	1420	KIEL	45	1820	1834	16	1400.0	140.0		
	1000	KIEL	45	1820	1824	15	1200.0	100.0		
	960	PENN	45	1820.5	1824.2	14.3	140.0D	27.6		
	800	KIEL	45	1820	1826	17	800.0	150.0		
	410	SGMR	7	1820	1831.3	15.5	344.0	103.0		
	245	SGMR	6	1820	1825	12.5	210.6	63.0		
	3700	SLOU	45	1821	1821.2	3 U	320.0			
	600	KIEL	45	1821	1832	19	350.0	50.0		
	29	UPIC	45	1822	1822.5	1.5				
	10700	PENN	29	1832.8	1832.8	50.2	51.0	25.5		
	2800	OTTA	30	1836	1836	45	12.4	6.2		
	800	KIEL	45	1843	1848	12	45000.0	900.0		
	606	SGMR	47	1843.3	1847.3	15.9	14800.0	4440.0		4+SWF+SCNA
	600	KIEL	45	1843	1848	12	15000.0	100.0		
	410	SGMR	49	1843.3	1847.8	14.7	1624.0	487.0		4+SWF+SCNA
	400	KIEL	45	1843	1848	16	1800.0	40.0		
	960	PENN	45	1844.4		12.2	145.0D			
	10700	PENN	3	1845.8	1847.3	10.6	193.0	42.9		
	8800	SGMR	3	1845.8	1847.2	21.5	350.0	105.0		
	4995	SGMR	4	1845.8	1847.2	16.2	319.0	95.7		
	2695	SGMR	46	1845.6	1848.2	15.6	267.0	80.1		
	2695	SGMR	46		1850.3		174.3			
	1420	BOUL	45	1845	1848.5	20	471.0	116.0		
	1415	SGMR	47	1845.7	1848.3	14.7	1727.0	518.0		
	245	SGMR	7	1845	1847.8	9.6	340.2	102.0		
	240	KIEL	45	1845	1848	7				
	228	HARS	45	1845	1850	7	450.0	140.0		
	15400	SGMR	3	1846	1847.3	22	164.5	49.3		
	2800	OTTA	46	1846	1848.2	16	220.0	44.0		
	1420	KIEL	45	1846	1848	9	2400.0	80.0		
	1000	KIEL	45	1846	1848	7	17000.0	400.0		
	2695	BOUL	45	1949.5	1950.5	7	5.0	2.0		
	2695	SGMR	1	2003.4	2003.7	.8	6.0	2.4		
	1420	BOUL	8	2003.5	2004	1.5	10.0	4.0		
	1415	SGMR	45	2003.3	2004	3.5	16.1	4.8		
	1415	SGMR	45		2004.8		8.8			
	1415	PALE	4	2003.5	2003.8	3	13.5	4.2		
	606	SGMR	47	2003.3	2004	1.7	640.0	192.0		
	410	SGMR	6	2003	2003.8	2.1	39.2	7.8		
	2800	OTTA	21	2030	2136	165	10.4	5.2		
	9400	HUAN	28	2039.3	2051.8	13.5	46.0	10.4		
	960	PENN	45	2039.8		96.8	300.0D			
	410	SGMR	49	2044.2	2110.2	84	1274.0	468.0		
	10700	PENN	47	2045.7	2059	38.9	1058.0	237.0		

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4	4995	BOUL	45	2045.5	2059.5	50.5	362.0	115.0		
	606	SGMR	47	2045.5	2104.6	31.8	20550.0	8220.0		
	2695	BOUL	45	2046	2059.5	43.5	176.0	48.0		
	1415	SGMR	47	2046.1	2059.3	29.4	4077.0	1223.0		
	500	HIRA	45	2046	2105.3	35	2800.0	470.0		
	1420	BOUL	47	2047.5	2059.5	33.5	865.0	88.0		
	8800	SGMR	47	2048.6	2058.8	27.4	1470.0	441.0		
	8800	PALE	47	2048.5	2058.8	57.5	1400.0	420.0		
	8800	PALE	47		2109.8		600.0			
	2800	OTTA	4	2048	2058	38	350.0	60.0		
	1415	PALE	47	2048.3	2058.8	77.7	3000.0	900.0		
	18	BOUL	41	2048	2102	29			2	
	15400	SGMR	47	2049.2	2058.8	26.8	1408.0	563.0		
	4995	SGMR	47	2049	2058.8	27	619.0	186.0		
	2695	SGMR	46	2049.5	2054.5	26.5	151.0	104.0		
	9400	HUAN	46	2052.8	2054.3	23.2	335.1	166.0		
	9400	HUAN		2052.8	2058.8		427.1			
	9400	HUAN		2052.8	2100.9		394.2			
	9400	HUAN		2052.8	2110		335.1			
	35000	SGMR	47	2053.5	2058.5	7.6	1149.0	460.0		
	245	SGMR	7	2054.2	2109.8	71.5	265.0	79.5		
	100	HIRA	45	2054.5	2103.2	17	1000.0D	100.0D		
	1415	SGMR	30	2115.5	2115.5	183.5U	7.3	2.9		
	15400	SGMR	29	2116	2116	144 U	78.0	31.2		
	9400	HUAN	29	2116	2116	23.7	78.8	42.3		
	8800	SGMR	30	2116	2116	159 U	63.0	25.2		
	4995	SGMR	30	2116	2116	159 U	36.0	14.4		
	2695	SGMR	30	2116	2116	159 U	15.0	7.5		
	606	SGMR	30	2117.3	2117.3	16.7	3.0	1.5		
	8800	SGMR	46	2118.8	2119.1	2.2	4.6	2.7		
	8800	SGMR	46		2119.8		6.7			
	4995	SGMR	46	2118.6	2119	2.4	3.6	1.9		
	4995	SGMR	46		2119.7		4.7			
	2695	SGMR	46	2118.2	2118.9	2.9	17.1	6.8		
	2695	SGMR	46		2058		347.0			
	2695	SGMR	46		2119.9		16.5			
	1415	SGMR	41	2118.9	2152	61.5	70.8	21.2		
	606	SGMR	41	2118.7	2126	12.9	141.0	35.3		
	10700	PENN	29	2124.6	2124.6	33.4	50.4	25.2		
	960	PENN	41	2125		56	140.0D			
	1420	BOUL	45	2133.5	2137	7	8.0	2.0		
	2000	TYKW	5	2136	2138	5	3.0	1.0		
	1000	TYKW	45	2136	2137.5	5	13.0	2.0		
	606	SGMR	47	2136.1	2137.6	3.9	3060.0	918.0		
	606	SGMR	47		2151.6		4960.0			
	2695	BOUL	3	2137	2138.5	4.5	3.0	1.0		
	500	HIRA	45	2137	2137.4	3	3100.0	290.0		
	4995	BOUL	3	2147.5	2152	5	14.0	5.0		
	9400	TYKW	5	2148	2152	10	12.0	4.0		
	1420	BOUL	45	2148	2152.5	6	39.0	9.0		
	2000	TYKW	45	2149	2152.5	5	11.0	3.0		
	1415	MANI	40	2149.2U	2152.9U	4.8U	72.0U	15.7U		SUNRISE
	1000	TYKW	45	2149	2151.3	5	31.0	8.0		
	606	MANI	40	2149.2U	2152.2U	32.3U	270.0U	6.5		SUNRISE
	606	SGMR	47	2149.5	2150.6	7.3	2260.0	1488.0		SUNRISE
	3750	TYKW	5	2150 U	2152.4	4	7.0U	2.0U		SUNRISE
	2800	OTTA	46	2150	2152	5	7.4	1.9		
	2695	BOUL	45	2150	2153	8.5	11.0	4.0		
	500	HIRA	45	2150	2152.4	3.2	720.0	210.0		
	1000	TYKW	45	2155	2156.6	2	3.0	1.0		
	2000	TYKW	5	2156	2156.8	2	2.0	0.5		
	2000	TYKW	5	2200.4	2200.7	.7	2.0	0.6		
	1420	BOUL	3	2200	2200.5	1	2.0	1.0		
	3750	TYKW	5	2202.6	2202.8	.4	3.0	1.0		
	2800	OTTA	2	2202.8	2203	1	2.4	1.2		
	2000	TYKW	5	2202.6	2202.9	.6	26.0	7.0		
	2695	BOUL	8	2203.5	2206	3	57.0	20.0		
	3750	TYKW	5	2217	2218.6	4	4.0	1.0		
	2000	TYKW	45	2218	2218.7	2	3.0	1.0		
	1420	BOUL	45	2218	2300	2	4.0	1.0		
	1415	PALE	4	2218.5	2220	6	3.6	1.1		
	8800	PALE	3	2220.2	2224.6	28.3	41.1	12.0		
	8800	MANI	4	2223.5	2224.5	4.8	31.0	3.6		
	4995	BOUL	8	2223	2224.5	3.5	27.0	10.0		
	4995	MANI	4	2223.5	2224.5	4.8	24.8	3.7		
	2930	VORO	3	2223	2224	2.2	38.0			
	2800	OTTA	4	2223.5	2224.5	3	74.0	10.0		
	2695	MANI	4	2223.5	2224.4	4.8	85.0	8.8		
	9400	TYKW	5	2224	2224.4	2	28.0U	9.0U		RAIN
	3750	TYKW	5	2224	2224.4	2	32.0	7.0		
	2000	TYKW	5	2224	2224.5	1	43.0	10.0		
	9400	TYKW	45	2305	2316	50	16.0U	7.0U		RAIN
	3750	TYKW	45	2305	2340.5	70	8.0	2.0		
	2695	PENT	21	2338	2341	30	2.6	1.3		
	8800	PALE	1	2339.8	2340.5	5.2	6.5	2.0		
	4995	BOUL	8	2339	2340	1.5	13.0	4.0		
	4995	MANI	1	2339.8	2340.4	2.1	6.2	1.2		
	2695	MANI	1	2339.8	2340.5	2.3	4.4	.9		
	1420	BOUL	8	2339.5		1.5	10.0	3.0		
	1415	MANI	4	2339.7	2340.5	1.2	10.8	1.3		

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	606	MANI	40	2339.2U	2340.5U	2.7U	230.0U	21.6U		RFI
	2695	PENT	1	2340	2340.5	1	5.2	2.6		
	2695	BOUL	8	2340	2341	2	7.0	2.0		
	2000	TYKW	5	2340	2340.4	2	12.0	4.0		
	1415	PALE	4	2340	2340.5	1.8	10.7	4.0		
	1000	TYKW	5	2340	2340.4	2	13.0	2.0		
	2000	TYKW	29	2342		30	2.0	1.0		
	2695	PENT	8	2346.5	2346.5		4.0			
5	2000	TYKW	45	0020	0044.3	90	19.0	1.0		
	3750	TYKW	5	0030	0100	78	8.0	3.0		
	2695	PENT	21	0030	0100	60	4.6	2.3		
	9400	TYKW	5	0035	0100	70	16.0U	5.0U		RAIN
	8800	PALE	22	0040.8	0103.2	44.2	18.8	11.2		
	1415	PALE	45	0040.8	0044.2	6	110.0	42.0		
	1415	PALE	45		0045.6		68.0			
	1420	BOUL	45	0043	0044	3	44.0	15.0		
	1415	MANI	40	0043	0044.2	6.7	94.0	8.1		
	1000	TYKW	45	0043	0044.3	2	48.0	10.0		
	606	MANI	40	0043.3U	0044.2	6.7U	245.0U	20.5U		RFI
	2695	MANI	1	0044	0044.2	1	7.0	.9		
	2695	PENT	8	0044.1	0044.1		13.4			
	1000	TYKW	45	0045.5	0046.1	2	53.0	10.0		
	1415	MANI	40	0058	0100.3	5.5	7.2	1.8		
	2695	BOUL	3	0059	0102	5.5	4.0	1.0		
	1000	TYKW	45	0059.5	0100.2	3	23.0	2.0		
	606	MANI	40	0059 U	0100.4	4.5U	135.0U	16.2U		CALIBRATING
	1415	PALE	40	0100	0102.3	3	5.3	1.6		
	2800	OTTA	8	0140.2	0140.2		5.8			
	606	MANI	41	0150.1	0152.9	17.9	103.0	16.2		
	8800	PALE	22	0151.5	0153.3	13.8	22.4	13.4		
	3750	TYKW	5	0151		25	10.0D	3.0D		
	9400	TYKW	5	0152		25	17.0D	4.0D		
	2000	TYKW	45	0152	0153.6	5	20.0	2.0		
	1415	PALE	46	0152.6	0153.6	15.9	78.0	23.4		
	1415	PALE	46		0154.3		53.0			
	1000	TYKW	45	0152	0153	6	19.0	2.0		
	1415	MANI	41	0153.4U	0153.5	11.6U	141.0U	13.5U		CALIBRATING
	9400	TYKW	5	0225	0225.9	2	36.0	12.0		
	9300	IRKU	3	0225	0225.9	30	47.0			
	8800	PALE	4	0225.3	0225.8	6.5	33.3	9.9		
	3750	TYKW	5	0225	0226	2	23.0	4.0		
	2930	VORO	1	0226	0226.5	2	10.0			
	9400	TYKW	29	0227		20	6.0	3.0		
	200	GORK	44	0300 E		600 D		8.0		
	100	GORK	44	0300 E		600 D		8.0		
	260	ONDR	44	0610		620	235.0D			
	221	ABST	44	0700	0711.2	60	5.0			
	245	SGMR	44	0916 E	1411.2	903 D	43.2			
	9400	TYKW	45	0310	0339	100	7.0	2.0		
	3750	TYKW	45	0310	0428	120	5.0	1.0		
	2000	TYKW	45	0315	0430	120	3.0	1.0		
	2000	TYKW	5	0315.4	0315.5	.2	4.0	2.0		
	1415	PALE	4	0315.5	0315.5	7.7	25.2	7.6		
	1000	TYKW	45	0315	0315.3	5	5.0	1.0		
	950	GORK	46	0315.5	0315.5	1.2	57.0			
	950	GORK		0315.5	0316.2		50.0			
	650	GORK	1	0316	0316.1	.5	3.6	1.8		
	950	GORK	4	0319	0319.6	1	61.0	25.0		
	200	GORK	6	0346.8	0347.3	.9	170.0	80.0		
	1415	PALE	4	0404	0404.3	.8	37.3	11.2		
	100	GORK	41	0529.3	0530	18.7	40.0			
	100	GORK		0529.3	0546.2		40.0			
	100	HIRA	41	0608.5	0709.2	73	1000.0			
	3750	TYKW	45	0635	0701.1	70	22.0	5.0		
	2000	TYKW	5	0645	0710	60 U	3.0U	1.0U		SUNSET
	113	POTS	45	0645.8	0646.6	.9	200.0	15.0		
	4995	MANI	4	0647.3	0701.1	23.8	86.0	17.3		
	8800	MANI	4	0652.8	0701.1	19.9	77.0	18.7		
	6100	KISV	47	0652.4	0700.4	22	85.0			
	9500	BERL	23	0658	0700.7	57	34.0	5.7		
	4995	ATHN	3	0658.1	0700.8	9.2	57.6	17.3		
	2695	MANI	2	0658.1	0707.6	15.7	3.8	1.9		
	1470	BERL	20	0659	0704	51	1.9			
	9400	TYKW	5	0700	0701	2	37.0	11.0		
	9300	IRKU	3	0700	0701	3.5	47.0			
	9240	ARCE	3	0700.7	0701.1	3.7				
	9100	GORK	3	0700	0701	2.2	42.0	21.0		
	8800	ATHN	3	0700.3	0700.8	6.8	47.9	14.4		
	3000	BERL	22	0700	0704	50	6.1			
	9400	TYKW	29	0702		20	4.0	2.0		
	9100	GORK	29	0702.2	0706	42.3	6.8	4.4		
	8800	MANI	8	0707.2	0707.4	.6	2700.0	405.0		
	113	POTS	45	0736.9	0736.9	.1	280.0	70.0		
	9240	ARCE	20	0814.1	0835	41				
	29	UPIC	45	0824	0824.5	1				
	9500	BERL	22	0825	0834.5	90	14.0			
	3000	BERL	22	0825	0858.2	88	8.4			
	9100	GORK	21	0832.5	0916.7	87.5	8.6	4.3		
	9300	IRKU	1	0834	0834.6	3	17.5			

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5	9100	GORK	1	0834.5	0835	1.2	8.6	4.3		
	4995	ATHN	22	0855.6	0858.4	14.4	6.1	3.7		
	2695	ATHN	22	0855.6	0858.5	13.6	3.8	2.3		
	8800	ATHN	22	0856.7	0858.4	12.3	11.6	7.0		
	3100	CRIM	1	0856	0859	17	5.0	2.0		
	9100	GORK	1	0857.5	0858.5	2.5	7.3	3.6		
	606	MANI	2	0857.5	0858.5	2.5	7.8	1.6		
	9300	IRKU	1	0858	0858.5	1	8.0			
	9240	ARCE	1	0858.1	0859	3				
	1470	BERL	3	0858	0858.5	1	25.0	5.9		
	1415	MANI	8	0858.5	0858.7	.7	49.5	4.5		
	1415	ATHN	8	0858.3	0858.5	.7	44.5	8.9		
	950	GORK	3	0858.5	0858.8		84.0U			
	930	BORD	45	0859	0859.8	1	186.0	3.0		
	808	ONDR	45	0859	0859	1	270.0			
	650	GORK	1	0859.6	0859.7	.2	4.6	2.3		
	3100	CRIM	24	0920	1040		5.0			
	1470	BERL	3	0923	0923.6	1	45.0	7.9		
	950	GORK	3	0923.6	0923.8	.6	15.0	7.0		
	930	BORD	45	0924	0924.6	1	24.0	2.0		
	1470	BERL	1	0949	0949.3	.5	4.7	1.2		
	29	UPIC	45	0958	0959	1.5				
	1470	BERL	1	0959.5	0959.7	.6	3.2	0.8		
	930	BORD	41	0959	1000.8	2	16.0	2.0		
	9240	ARCE	24	1024.9		43				
	3100	CRIM	45	1035	1038	19	4.0	2.0		
	3100	CRIM		1035	1041		5.0			
	3000	BERL	46	1037	1041	6	5.4	1.5		
	1470	BERL	2	1037.5	1038.2	1	3.5	0.8		
	113	POTS	41	1038.1	1041	2.6	500.0	25.0		
	29	UPIC	45	1038	1038.5	5				
	100	GORK	41	1040	1041	2.5	40.0			
	100	GORK		1040	1042.1		350.0			
	100	GORK	6	1101.1	1101.4	1.5	40.0D			
	100	GORK	41	1108.4	1108.7	1.4	40.0D			
	100	GORK		1108.4	1109.5		100.0			
	29	UPIC	45	1108	1109.5	4				
	100	GORK	6	1118.8	1119.2	.9	40.0D			
	3000	BERL	22	1120	1134.5	25	3.9			
	100	GORK	6	1138.9	1139.7	1.4	300.0			
	113	POTS	45	1139.1	1139.5	.6	200.0	10.0		
	29	UPIC	45	1139	1140	2				
	7000	SAOP	32	1151.9		5.7	6.9			
	10700	PENN	3	1153.1	1203.8	14.2	180.0	20.7		
	9400	HUAN	1	1155.9	1156.3	1.1	21.5	6.2		
	9100	GORK	21	1155.5	1229	43.5D	12.3			
	2800	OTTA	21	1155	1209	27	5.0	2.5		
	15400	SGMR	3	1156.1	1156.2	1	52.5	10.5		
	10700	PENN	3	1156	1156.2	1.6	25.6	6.4		
	10500	BERN	3	1156.2	1156.6	12	28.0			
	10500	BERN			1204.2		195.0			
	9500	BERL	4	1156	1156.2	5	20.0	5.7		
	9240	ARCE	28	1156.3	1156.6	7.3				
	8800	SGMR	3	1156.1	1156.5	.9	12.3	2.5		
	8800	ATHN	1	1156.2	1156.4	1.5	15.3	5.0		
	29	UPIC	45	1158.5		8.5				
	9500	BERL	3	1202.2	1202.5	15	174.0	43.0		
	3000	BERL	3	1202.5	1203.5	16	220.0	47.0		
	315	DWIN	45	1202.6	1202.8	1.8	400.0	80.0		
	15400	SGMR	4	1203.2	1203.8	8.7	90.0	18.0		
	9400	HUAN	3	1203.2	1203.8	2.5	204.3	91.6		
	9240	ARCE	3	1203.6	1204	5.1				
	9100	GORK	3	1203	1203.5	4.5	192.0	96.0		
	8800	SGMR	3	1203.1	1203.8	9	244.0	48.8		
	8800	ATHN	3	1203.4	1203.8	5.9	253.8	76.8		
	7000	SAOP	8	1203.6	1205.2	3.9	459.6	36.9		
	4995	SGMR	3	1203	1203.9	9.5	277.0	55.4		
	4995	ATHN	3	1203.4	1204.1	5.9	246.1	73.8		
	3100	CRIM	3	1203	1204	7	117.0	39.0		
	2800	OTTA	3	1203	1204	6	142.0	36.0		
	2695	SGMR	3	1203.2	1203.8	6.3	146.0	29.2		
	2695	ATHN	3	1203.3	1203.8	4	141.9	42.9		
	1470	BERL	4	1203	1204.1	12	162.0	47.0		
	1415	SGMR	4	1203.5	1203.6	8	181.0	36.0		
	1415	ATHN	4	1203.3	1203.6	2.2	174.6	52.4		
	960	PENN	45	1203.2		2.1	150.0			
	808	ONDR	45	1203	1204	3	330.0			
	606	SGMR	4	1203.3	1203.7	5.2	155.0	31.0		
	536	ONDR	45	1203.5	1203.5	2.5	90.0			
	510	POTS	45	1203 U	1203.5U	2 U	35.0	7.0		
	410	SGMR	6	1203.4	1203.5	3.2	153.0	30.6		
	260	ONDR	45	1203	1203	2	125.0			
	245	SGMR	6	1203.2	1203.5	3.4	188.0	37.6		
	234	POTS	45	1203.4	1203.5	.5	120.0	4.0		
	207	IZMI	41	1203.3		1	600.0			
	113	POTS	45	1203.3	1204.1	2.6	1700.0	70.0		
	18	MCMA	6	1203	1205	3			2	
	950	GORK		1204 E	1204.1U	1.3U				
	930	BORD	45	1204	1205.2	3	3500.0	30.0		
	9400	HUAN	29	1205.7	1205.7	7.1	26.9	9.1		

SOLAR RADIO EMISSION
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JULY 1974

JUL (UT)	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
5	100	GORK	6	1205.5E	1206.4	1.1	350.0			
	10700	PENN	29	1207.3	1207.3	35.4	12.8	6.4		
	9240	ARCE	29	1208.7		72				
	7000	SAOP	22	1220.9		66	20.7			
	10700	PENN	3	1226.5	1229.6	12	12.8	6.4		
	9500	BERL	22	1226.5	1234	49	9.7			
	8800	SGMR	22	1227.4	1233.8	18.1	11.1	6.7		
	4995	SGMR	22	1227	1228.9	18.8	7.2	4.3		
	3000	BERL	22	1227.5	1229.3	36	3.9			
	1415	SGMR	41	1227.3	1229.4	4.4	9.9	3.0		
	100	GORK	41	1227.8	1228.7	15.5	550.0			
	100	GORK		1227.8	1234.1		550.0			
	100	GORK		1227.8	1236		550.0D			
	2695	SGMR	1	1228	1229.5	1.9	2.1	.8		
	1470	BERL	46	1228	1229.1	2	8.3	1.9		
	606	SGMR	1	1228	1228.7	2	2.5	1.0		
	113	POTS	41	1228.6	1235.6	10	1700.0	6.0		
	29	UPIC	45	1228	1229.5	15				
	15400	SGMR	4	1229.8	1231	7.4	12.8	7.7		
	200	GORK	6	1239.5	1240.1	2.1	30.0	15.0		
	29	UPIC	45	1249.5	1249.5	2.5				
	7000	SAOP	4	1321.9	1323.2	24.6	24.9	12.4		
	4995	BOUL	45	1321.5	1323	8.5	20.0	5.0		
	4995	SGMR	4	1322.2	1323.4	6.8	14.4	4.3		
	8800	SGMR	3	1323	1323.4	5.9	11.1	3.3		
	7000	SAOP	29	1324.3		5.3	10.9			
	10700	PENN	1	1333.3	1334.1	3.7	6.5	1.0		
	10700	PENN	1	1351.8	1354.8	6.4	6.5	3.3		
	2695	BOUL	8	1404	1405	2	4.0	1.0		
	9400	HUAN	20	1409.4	1422.8	21.9	8.1	3.7		
	8800	ATHN	1	1415.7	1415.8	.5	8.4	3.4		
	4995	ATHN	1	1415.6	1415.7	.8	2.1	.8		
	10700	PENN	20	1448.2	1451.9	12.2	4.4	1.0		
	8800	ATHN	47	1506.4	1510.5	9.7	1553.0	448.0		
	7100	SLOU	46	1506.8	1509	3.2	962.0			
	1900	SLOU	47	1506	1510.2	10	2376.0			
	35000	SGMR	47	1507	1507.6	10.5	1550.0	740.0		
	35000	SGMR	47		1509.7		2467.0			
	15400	SGMR	47	1507	1510.2	12.1	2042.0	613.0		
	15400	SGMR	47		1514.2		1010.0			
	10700	PENN	47	1507	1510.4	13.4	1510.0	329.0		
	10500	BERN	45	1507	1510.6	40	1690.0			
	10500	BERN			1514.5		980.0			
	9400	HUAN	45	1507	1508.5	8	217.7	142.0		
	9400	HUAN		1507	1509.5		350.8			
	9400	HUAN		1507	1513.5		353.5			
	9240	ARCE	46	1507.4	1510.1	11.1				
	9240	ARCE		1507.4	1510.1	6.2				
	9240	ARCE		1513.6	1514.2	4.9				
	8800	SGMR	47	1507.1	1510.2	12.3	2270.0	681.0		
	8800	SGMR	47		1514.1		1370.0			
	7000	SAOP	45	1507.3	1506.6	9	1282.8	356.5		
	4995	BOUL	47	1507.5	1511	69.5	688.0	240.0		
	4995	SGMR	47	1507.5	1510.7	13.6	900.0	343.0		
	4995	SGMR	47		1514.2		475.0			
	4995	ATHN	47	1507.4	1511.2	9.3	782.0	167.0		
	3700	SLOU	47	1508	1510	8	1660.0			
	2695	SGMR	46	1508.4	1510.6	13.1	378.0	121.0		
	2695	SGMR	46		1514.2		403.0			
	2695	BOUL	45	1508.5	1516	11.5	273.0	82.0		
	2800	OTTA	45	1509	1614	13	470.0	123.0		
	2800	OTTA		1509	1510.8	4	432.0			
	2800	OTTA		1513	1514	9	470.0			
	2695	ATHN	46	1509.4	1511.2	9.3	423.0	80.3		
	1420	BOUL	45	1509	1515	24	241.0	58.0		
	1415	SGMR	47	1509.7	1511	16.1	173.0	143.0		
	1415	SGMR	47		1514.1		510.0			
	1415	ATHN	46	1509.7	1514.3	10.3	301.0	55.7		
	960	PENN	45	1509.9	1513.6	20.2	157.0	39.4		
	606	SGMR	46	1509.7	1510.2	15.5	325.0	98.0		
	606	SGMR	46		1515.2		125.0			
	550	KIEV	41	1509.9	1510.5	15	166.0			
	410	SGMR	6	1509.7	1510.6	35.3	149.0	45.0		
	260	ONDR	45	1509.5		10.5	235.0D			
	245	SGMR	49	1509.6	1510.4	37.9	852.0	256.0		
	240	KIEL	45	1509	1511	18	9500.0	50.0		
	228	HARS	45	1509	1510	2	330.0	90.0		
	18	BOUL	6	1509	1512	5			2	
	1420	KIEL	45	1510	1515	12	640.0	100.0		
	1000	KIEL	45	1510	1515	11	1200.0	100.0		
	930	BORD	45	1510	1515.6		400.0			
	808	ONDR	45	1510	1514.5	20	360.0			
	800	KIEL	45	1510	1513	15	2500.0	80.0		
	600	KIEL	45	1510	1511	14	740.0	40.0		
	536	ONDR	45	1510	1510	15.5	155.0			
	400	KIEL	45	1510	1513	10	850.0	30.0		
	29	UPIC	45	1510	1510	15.5				
	18	MCMA	42	1510	1515	108			3	
	9400	HUAN	30	1515	1515	108.3	94.1	45.7		
	8800	ATHN	29	1516.1	1516.1	63.3	188.0	34.8		

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JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
5	7000	SAOP	29	1516.3		117.9	151.6	78.0		
	4995	ATHN	29	1516.7	1516.7	69.8	59.7	18.8		
	9240	ARCE	29	1518.5		105				
	2695	ATHN	29	1518.7	1518.7	50.2	50.2	15.1		
	15400	SGMR	29	1519.1	1519.1	85.9	87.7	35.1		
	8800	SGMR	29	1519.4	1519.4	180.6	91.4	36.6		
	10700	PENN	29	1520.4	1520.4	61.6	100.0	50.4		
	1415	ATHN	29	1520	1520	62.2	17.7	5.1		
	4995	SGMR	29	1521.1	1521.1	184.9	58.7	23.5		
	2695	SGMR	29	1521.5	1521.5	184.5	32.1	12.8		
	2800	OTTA	29	1522	1522	230	27.0	9.0		
	1415	SGMR	30	1525.8	1525.8	186.2	12.6	5.0		
	606	SGMR	30	1525.2	1525.2	182.8	5.0	2.0		
	960	PENN	29	1530.1	1530.1	30.1	3.1	1.6		
	1415	SGMR	1	1536.9	1539	4.4	4.0	1.6		
	1420	BOUL	3	1537	1539	3.5	3.0	1.0		
	606	SGMR	2	1538.5	1539.4	4.5	3.7	1.4		
	9400	HUAN	1	1608.4	1609.4	3.4	17.5	5.0		
	10700	PENN	3	1609.1	1609.6	4.8	11.1	5.2		
	1415	PALE	4	1618.5	1634.2	80	108.0	32.4		
	8800	PALE	46	1625	1629.3	92.3	326.0	109.8		
	8800	PALE	46		1634.6		366.0			
	7000	SAOP	20	1800		12.2	9.0			
	18	MCMA	6	1803	1805	3			1	
	9400	HUAN	20	1821.4	1829.8	37	6.7	1.9		
	2695	BOUL	3	1857.5	1859	2.5	6.0	2.0		
	8800	PALE	22	2030	2042.2	23.3	20.1	12.1		
	2695	BOUL	47	2032	2044.5	130.5	1140.0	252.0		
	9400	HUAN	1	2041	2047.2	4.5	18.8	7.1		
	2800	OTTA	21	2050	2220	210	11.0	5.5		
	8800	PALE	47	2119.3	2138.8	114	4566.0	1370.0		
	8800	PALE	47		2141.6		2866.0			
	9400	HUAN	28	2120.4	2136.4	16	26.9	8.7		
	10700	PENN	47	2129.6	2139	23.8	3022.0	585.0		
	8800	SGMR	47	2130.4	2138.9	34.2	4500.0	1350.0		
	8800	SGMR	47		2141.6		3170.0			
	15400	SGMR	47	2131	2138.8	35.5	2771.3	831.4		
	15400	SGMR	47		2142.6		2615.9			
	4995	BOUL	47	2131	2139.5	62	1469.0	404.0		
	4995	SGMR	47	2131.8	2138.9	32.5	2400.0	720.0		
	4995	SGMR	47		2142.2		1719.0			
	35000	SGMR	47	2132.4	2141.7	72.9	1564.0	734.0		
	35000	SGMR	47		2142.6		1836.0			
	2695	SGMR	47	2132.3	2138.9	32.1	1820.0	546.0		
	2695	SGMR	47		2142.3		1777.0			
	2000	TYKW	47	2132	2142.7	24	2100.0U	280.0U		
	1420	BOUL	47	2132.5	2144	41.5	895.0	128.0		
	1000	TYKW	47	2132	2141.8	20	1350.0	220.0		
	960	PENN	41	2132.3	2132.5	.8	27.4			
	2800	OTTA	47	2134	2142.5	22	2070.0	610.0		
	1415	SGMR	47	2134	2141.7	36.5	1827.0	930.0		
	1415	SGMR	47		2143		3100.0			
	9400	TYKW	47	2135	2138.8	20	3700.0U	620.0U		SUNRISE
	3750	TYKW	47	2135	2138.8	18	1650.0	310.0		
	1415	PALE	47	2135.5	2139.3	81.5	1400.0	935.4		
	1415	PALE	47		2143		3118.0			
	18	MCMA	6	2135	2140	6			3	
	9400	HUAN	47	2136.4	2136.7	14.8	337.3	399.8		
	9400	HUAN		2136.4	2139.1		799.7			
	9400	HUAN		2136.4	2146.6		1357.4			
	9400	HUAN		2136.4	2141.9		1431.4			
	9400	HUAN		2136.4	2142.7		1431.4			
	960	PENN	45	2136.5		19.2	150.0D			
	606	SGMR	47	2136.6	2141.9	27.4	8400.0	2520.0		
	606	SGMR	47		2142.3		1953.0			
	500	HIRA	45	2136.6	2142	27	4000.0	290.0		
	200	HIRA	45	2136.6		19	360.0D	180.0D		
	100	HIRA	45	2136.5	2141	99	1000.0D	40.0D		
	410	SGMR	49	2137	2142.7	46.6	4250.0	1275.0		
	245	SGMR	49	2137	2142.7	49.1	13000.0	3900.0		
	18	BOUL	6	2137	2140	6 D			2	
	8800	MANI	47	2140 U	2141.8U	30.9U	2800.0U	270.0U		SUNRISE
	4995	MANI	47	2140 U	2142.2U	30.9U	6700.0U	740.0U		SUNRISE
	2695	MANI	47	2140 U	2142.3U	30.9U	4100.0U	405.0U		SUNRISE
	1415	MANI	47	2140 U	2142.8U	30.9U	3600.0U	295.0U		SUNRISE
	606	MANI	47	2140 U	2142 U	27.7U	3100.0U	122.0U		SUNRISE
	9400	HUAN	29	2151.2	2151.2	19.7	107.5	78.2		
	1000	TYKW	29	2152		150	25.0	8.0		
	10700	PENN	29	2153.4	2153.4	48.2	100.0	50.4		
	3750	TYKW	29	2153		150	40.0	13.0		
	960	PENN	8	2153.4	2153.4	.3	51.8			
	2800	OTTA	30	2156	2156	24	12.2	6.1		
	2000	TYKW	29	2156		160	20.0	5.0		
	2800	OTTA	4	2159.5	2200.5	5	25.8	3.2		
	9400	TYKW	5	2201.5	2202.6	2.5	15.0	5.0		
	1000	TYKW	5	2201	2202	3	6.0	2.0		
	2800	OTTA	8	2225.8	2225.8		2.4			
	1420	BOUL	45	2229.5	2245	108.5	58.0	18.0		
	1415	SGMR	40	2229.2	2243.7	29.8	153.8	46.1		
	960	PENN	45	2229.4			150.0D			

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JULY 1974

JUL 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
5	606 SGMR	40	2229	2245.6	32.8	169.4	50.8		
	410 SGMR	49	2229.3	2241.5	50	1350.0	405.0		
	9400 TYKW	5	2230	2245	60	10.0	3.0		
	3750 TYKW	5	2230	2250	60	15.0	5.0		
	2800 OTTA	21	2230	2249	70	14.6	6.8		
	2695 MANI	22	2230.5	2248.5	41.9	19.6	9.8		
	2000 TYKW	45	2230	2249	45	32.0U	10.0U		
	1415 MANI	4	2230.5	2244.2	41.9	143.0	33.0		
	1415 PALE	46	2230	2243.8	53.5	210.0	63.0		
	606 MANI	4	2230.5	2245.8	43.4	199.0	56.0		
	245 SGMR	49	2232.5	2244.4	47.6	690.0	207.0		
	200 HIRA	45	2232.5		42.5	360.0D	200.0D		
	500 HIRA	45	2233	2241	43	280.0	85.0		
	1000 TYKW	5	2235	2242	45	77.0	17.0		
	2800 OTTA	8	2256.1	2256.1		21.0			
	1415 SGMR	29	2259	2259	21	46.8	18.7		
	606 SGMR	29	2301.8	2301.8	18.2	23.8	9.5		
	1420 BOUL	45	2459.5	0102.5	5	4.0	1.0		
6	9400 TYKW	5	0040	0130	100	10.0	3.0		
	3750 TYKW	5	0040	0128	100	7.0	2.0		
	2000 TYKW	5	0040	0128	100	3.0	1.0		
	8800 PALE	3	0052.8	0053	1.8	11.0	3.3		
	8800 MANI	2	0053.1	0053.2	1.1	10.8	5.4		
	4995 MANI	1	0053	0053.2	.8	3.3	1.1		
	2695 PENT	8	0141.5	0141.9	.5	16.8	8.4		
	2000 TYKW	5	0141	0141.4	1.5	4.0	1.0		
	2000 TYKW	5	0159	0159.4	1	2.0	1.0		
	3750 TYKW	45	0242	0245	9	2.0	1.0		
	9400 TYKW	5	0243.5	0245.5	3	7.0	2.0		
	2000 TYKW	45	0243	0244.9	6	5.0	1.0		
	2695 MANI	2	0244.7	0245.3	1.5	7.9	3.0		
	1415 MANI	40	0244.7	0246.1	1.5	48.0	2.4		
	606 MANI	4	0244.4	0244.9	1.5	5.5	1.5		
	9300 IRKU	1	0245	0245.6	4	14.0			
	1415 PALE	40	0245.2	0246.1	1.8	29.3	5.8		
	1000 TYKW	45	0245	0245.4	1	4.0	1.0		
	200 GORK	44	0300 E		120		5.0		
	100 GORK	44	0300 E		420 D		5.0		
	260 ONDR	44	0640		580	235.0D			
	245 SGMR	44	0917 E	1541.8	902 D	16.9			
	9400 TYKW	5	0302	0310	30	3.0	1.0		
	3750 TYKW	5	0302	0303.7	15	3.0	1.0		
	1415 MANI	4	0305.7	0306	2.3	12.9	5.8		
	1415 PALE	4	0305.8	0306	1.8	13.1	3.9		
	1000 TYKW	45	0305.7	0306.2	1	4.0	1.0		
	950 GORK	1	0305.9	0306.3	.8	3.6	1.8		
	650 GORK	41	0305.3	0305.5	3	13.0			
	650 GORK		0305.3	0306.5		54.0			
	606 MANI	40	0305.1	0305.9	2.7	48.0	12.5		
	9300 IRKU	1	0335.9	0336.2	2	14.0			
	9400 TYKW	5	0336	0336.2	2	9.0	3.0		
	9300 IRKU	1	0400	0402	1.5	8.0			
	2000 TYKW	5	0400	0401.4	4	3.0	1.0		
	1415 PALE	40	0401	0401.5	1.5	20.3	4.0		
	1415 ATHN	4	0401	0401.5	2.5	15.1	4.3		
	950 GORK	1	0405.7	0406	.8	2.3	1.0		
	1415 PALE	40	0415.5	0415.5	.3	15.8	3.2		
	1415 ATHN	1	0415	0415.4	1.2	7.6	2.2		
	200 GORK	6	0536.3	0536.4	.9	100.0	50.0		
	100 HIRA	45	0536.3	0536.5	1	220.0	50.0		
	100 GORK	6	0536.3	0536.5	.7	60.0D			
	29 UPIC	45	0536.5	0537.5	1.5				
	100 HIRA	45	0541.5	0545.2	5	110.0	40.0		
	100 GORK	41	0541.4	0541.9	5.4	60.0D			
	100 GORK		0541.4	0545.2		800.0			
	650 GORK	3	0553.7	0553.9	.3	17.0	8.0		
	606 MANI	8	0553.8	0553.9	.2	11.0	2.0		
	100 GORK	6	0553.7	0553.9	.6	60.0	30.0		
	9100 GORK	20	0554 F	0622 U	42	8.5			
	29 UPIC	45	0554	0554.5	2.5				
	3100 CRIM	45	0601	0602	7	2.0	1.0		
	3100 CRIM		0601	0605		3.0	1.0		
	9400 TYKW	45	0615	0623	15	5.0	2.0		
	3750 TYKW	5	0616	0622	30	2.0	1.0		
	8800 ATHN	1	0621.9	0622.7	4	1.7	.6		
	4995 ATHN	1	0621.6	0622.3	4	2.0	.7		
	2695 MANI	41	0621.8	0622.4	5	3.0	1.0		
	2695 ATHN	1	0621.8	0622.8	4.3	3.3	1.1		
	2000 TYKW	45	0621	0622.2	13	19.0	1.0		
	1415 MANI	41	0621.7	0622.3	4.8	26.8	1.9		
	1415 ATHN	3	0621.1	0622.1	6.5	14.0	4.3		
	950 GORK	41	0622.2	0622.3	1.3	15.0	7.0		
	950 GORK		0622.2	0623.3		6.0	3.0		
	2000 TYKW	40	0646	0702.3	18	12.0	1.0		
	3100 CRIM	45	0649	0701	6	7.0	2.0		
	3100 CRIM		0649	0703		7.0	2.0		
	2695 MANI	40	0653.7	0702.8	10.1	14.8	5.0		
	1415 MANI	40	0653.9	0701.2	9.9	48.0	4.8		
	1415 ATHN	1	0654.6	0652.2	.7	7.9	2.4		

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6	29	UPIC	45	0655.5	0656	8.5				
	6100	KISV	40	0657	0700.4	6	5.0			
	3750	TYKW	45	0657	0702.8	10	4.0	1.0		
	100	GORK	41	0658.8	0700	4.2	45.0			
	100	GORK		0658.8	0701.5		80.0			
	9300	IRKU	3	0659.9	0701.6	7	37.5			
	8800	ATHN	4	0659.7	0701.5	8.1	18.6	5.6		
	4995	ATHN	22	0659.4	0701.8	10.4	4.9	2.9		
	2695	ATHN	4	0659.7	0702.7	8.3	11.7	3.5		
	1415	ATHN	4	0659.5	0701	8.2	44.3	13.3		
	10500	BERN	45	0700	0702.2	5	28.0			
	9400	TYKW	45	0700	0701.6	8	18.0	3.0		
	9100	GORK	2	0700	0701.7	3.5	21.0	10.0		
	1000	TYKW	45	0700	0700.1	1	2.0	1.0		
	950	GORK	4	0700	0700.2	2.2	57.0	17.0		
	9240	ARCE	4	0701	0702	5				
	113	POTS	40	0701.3	0701.3	.8	1000.0	50.0		
	200	GORK	6	0702	0702.1	.6	35.0	15.0		
	100	GORK	6	0703.4	0703.6	.6	60.0	30.0		
	100	GORK	6	0707.2	0707.7	.8	60.0D			
	9240	ARCE	41	0730.7	0816.3	73.7				
	9240	ARCE	21	0730.7	0738.6	18				
	3000	BERL	40	0733.5	0738	12	14.0	2.2		
	1415	MANI	41	0734.1	0755.7	50.1	315.0	14.6		
	950	GORK	41	0734	0735.2	7.9	22.0			
	950	GORK		0734	0738.1		240.0D			
	950	GORK		0734	0739.7		27.0			
	930	BORD	41	0734	0738.3	7	190.0	4.0		
	2695	MANI	41	0735.7	0816.1	44.1	70.0	3.0		
	2000	TYKW	40	0735	0738	10	15.0	2.0		
	650	GORK	3	0736.9	0737.1	.4	9.6	4.8		
	8800	ATHN	4	0737.5	0740.5	5.8	20.3	6.1		
	6100	KISV	41	0737.2	0740.4	7	6.0			
	4995	MANI	41	0737.8	0816.1	43.4	79.0	3.7		
	4995	ATHN	2	0737.5	0738.1	5.2	8.8	2.6		
	3100	CRIM	3	0737	0738	9	16.0	5.0		
	2695	ATHN	4	0737.5	0738.1	3.3	13.4	4.0		
	1470	BERL	4	0737.5	0738.3	8	164.0	50.0		
	1415	ATHN	4	0737.4	0737.9	3.6	221.0	66.0		
	1000	TYKW	5	0737.8	0738.2	1	23.0	5.0		
	9400	TYKW	45	0738	0740.7	9	22.0	5.0		
	9100	GORK	2	0738	0740.5	7	22.0	11.0		
	8800	MANI	41	0738	0816.1	45.2	405.0	5.6		
	3750	TYKW	45	0738	0738.2	5	6.0	1.0		
	10500	BERN	1	0739.8	0740.7	4	26.0			
	29	UPIC	45	0739.5	0740	1				
	9500	BERL	3	0740	0740.5	3	21.0	7.0		
	9240	ARCE	3	0740.4	0741.2	3.5				
	9300	IRKU	3	0741	0741.8	7	41.0			
	10500	BERN	4	0753.3	0756.9	3	26.0			
	9500	BERL	40	0753.5	0756.6	4.5	13.0	4.2		
	8800	ATHN	4	0753.3	0756.6	4.8	11.8	3.5		
	4995	ATHN	4	0753.5	0755.6	5.5	13.7	4.1		
	3000	BERL	46	0753	0756.5	7	19.0	6.1		
	2000	TYKW	40	0753	0756.3	10	17.0	2.0		
	1470	BERL	46	0753	0755.8	6	225.0	50.0		
	1415	ATHN	46	0753.1	0755.5	5.9	330.0	99.0		
	950	GORK	41	0753.6	0753.9	5.4	10.0			
	950	GORK		0753.6	0756.4		34.0			
	930	BORD	41	0753	0755.8	3	50.0	3.0		
	29	UPIC	45	0753.5		6.5				
	9240	ARCE	4	0754.1	0757	10				
	9300	IRKU	1	0755.6	0756.7	2	19.0			
	9100	GORK	1	0755	0756.5	5	16.5	8.2		
	3750	TYKW	5	0755	0755.9	2	13.0	3.0		
	2695	ATHN	4	0755.2	0756.3	4.8	16.7	5.0		
	1000	TYKW	5	0755.5	0755.8	.5	4.0	1.0		
	3100	CRIM	3	0756	0757	5	8.0	3.0		
	207	IZMI	6	0808.8	0808.8	.2	500.0	100.0		
	3100	CRIM	40	0812	0816	10	22.0D	7.0D		
	1470	BERL	46	0810	0815.8	10	141.0	27.0		
	1415	ATHN	46	0811.9	0815.6	7.9	215.0	43.0		
	29	UPIC	45	0811		8.5				
	8800	ATHN	4	0812.4	0815.8	8.9	201.0	60.0		
	4995	ATHN	4	0812.5	0815.8	8.6	95.1	28.5		
	3000	BERL	46	0812	0816	10	70.0	6.1		
	2695	ATHN	4	0812.1	0815.8	7.6	58.5	17.6		
	930	BORD	41	0812	0813.2	5	150.0	10.0		
	950	GORK	41	0813	0813.2	3.5	80.0D			
	950	GORK		0813	0814.3		58.0			
	950	GORK		0813	0816.2		46.0			
	100	GORK	41	0813	0813.2	6.4	60.0			
	100	GORK		0813	0815.3		60.0D			
	100	GORK		0813	0815.5		500.0			
	10500	BERN	3	0814.5	0816.1	5	400.0			
	9300	IRKU	3	0814.6	0816.1	5	287.0D			
	6100	KISV	45	0814	0815.5	7	103.0			
	9500	BERL	4	0815	0816	5.5	257.0	14.0		
	9240	ARCE	8	0815.6	0816.3	2.2				
	9100	GORK	3	0815	0816	5.5	279.0	140.0		

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6	1900	SLOU	8	0815.8	0816	1	550.0			
	650	GORK	3	0815.9	0816.2		20.0			
	650	GORK		0815.9	0818.3		2.7			
	606	MANI	41	0815.5	0816.1	9.2	22.5	1.5		
	113	POTS	45	0815	0815.2	1.1	900.0	120.0		
	100	HIRA	45	0815	0815.1	1.5	1000.0D	300.0D		
	3700	SLOU	3	0816	0816.6	.8	400.0			
	808	ONDR	5	0816	0816	.5	85.0			
	536	ONDR	5	0816	0816	.5	50.0			
	9240	ARCE	29	0817.8	0818.7	26.6				
	650	GORK	3	0829.7	0829.8	.3	14.0			
	29	UPIC	45	0829	0832.5	8				
	9100	GORK	23	0830		210				
	3000	BERL	1	0831.8	0832.1	.7	5.3	1.4		
	1470	BERL	3	0831.9	0832.2	.7	15.0	4.0		
	100	GORK	41	0832.3	0832.5	3.5	65.0D			
	100	GORK		0832.3	0835.2		65.0D			
	3100	CRIM	24	0851	1000		5.0D			
	207	IZMI	6	0910.3	0910.5	.4	120.0	70.0		
	29	UPIC	45	0914.5	0915	1.5				
	100	GORK	41	0933	0933.1	5.5	65.0			
	100	GORK		0933	0937.5		65.0D			
	29	UPIC	45	0936		6				
	4995	ATHN	2	0939.7	0939.9	1.3	6.9	2.1		
	2695	ATHN	4	0939.7	0939.9	1.3	15.0	4.5		
	1415	ATHN	4	0939.7	0939.8	1.3	82.1	24.6		
	6100	KISV	3	0940	0944.2	1.3	6.0			
	3100	CRIM	3	0940	0941	2	8.0	3.0		
	3000	BERL	4	0940	0940.3	2	15.0	6.1		
	1470	BERL	3	0940	0940.5	1.5	56.0	19.0		
	950	GORK	4	0940.2	0940.2	.6	45.0	18.0		
	930	BORD	45	0940	0940.5	1	70.0	10.0		
	234	POTS	5	0940.5	0940.5	.1	120.0	40.0		
	221	ABST	6	0940	0940.2	.8	21.0			
	200	GORK	6	0940.4	0940.6	.3	240.0	120.0		
	113	POTS	40	0940.3	0940.5	.8	4200.0	140.0		
	4995	ATHN	2	0954.5	0954.8	.9	2.0	.6		
	3100	CRIM	3	0954	0955	3	10.0	3.0		
	3000	BERL	4	0954.5	0955.5	3.5	26.0	3.8		
	2695	ATHN	4	0954	0954.7	3.2	31.7	9.5		
	1470	BERL	3	0954.5	0955	3	28.0	7.9		
	1415	ATHN	4	0954.5	0955	3	34.6	10.4		
	950	GORK	41	0954.8	0955.2	2.7	80.0			
	950	GORK		0954.8	0956.6		80.0			
	930	BORD	41	0954	0955.2	4	133.0	4.0		
	29	UPIC	45	0955	0956.5	3				
	6100	KISV	45	1001.4	1004.2	5	35.0			
	4995	ATHN	41	1001.5	1004	21.2	23.5	4.7		
	3000	BERL	21	1001	1153	166	27.0			
	1470	BERL	21	1001	1156.5	159	7.5			
	10500	BERN	45	1002.7	1004.8	5	70.0			
	9240	ARCE	23	1002.8	1245.8	182				
	8800	ATHN	41	1002.5	1004	20.2	38.9	7.8		
	2695	ATHN	41	1002	1011	31.7	31.7	6.3		
	1415	SGMR	46	1002.8	1003.7	2.8	96.8	29.1		
	1415	SGMR	46		1004.3		70.0			
	1415	ATHN	41	1002.5	1003.9	27.1	92.9	18.6		
	9500	BERL	21	1003	1155	157	45.0			
	9500	BERL	4	1003	1004.2	5	56.0	11.0		
	3000	BERL	4	1003	1004.4	4	29.0			
	1470	BERL	3	1003	1004	2.5	67.0			
	930	BORD	45	1003	1004.3	3	170.0	30.0		
	808	ONDR	45	1003.5	1005.5	3	230.0			
	606	SGMR	1	1003.2	1003.7	2.1	8.7	2.6		
	315	DWIN	42	1003	1110	91	750.0D			
	221	ABST	48	1003.8	1004	1	21.0	7.0		
	29	UPIC	45	1003		18.5				
	9240	ARCE	4	1004.4	1004.7	1.8				
	3700	SLOU	3	1004	1004.5	.5	66.0			
	1900	SLOU	3	1004	1004.2	.5	125.0			
	510	POTS	41	1004.3U	1015.7U	12	112.0	1.0E		
	410	SGMR	6	1004.2	1004.8	1.1	16.0	4.8		
	245	SGMR	6	1004	1004.8	1.3	37.6	11.3		
	234	POTS	41	1004.4	1015.9	12	500.0	1.0F		
	113	POTS	41	1004.4	1014.7	13	2800.0	9.0		
	207	IZMI	41	1005	1105.4	1.5	210.0			
	6100	KISV	1	1008.2	1008.4	1	3.0			
	3000	BERL	4	1008	1011.2	14	30.0			
	1470	BERL	4	1008.5	1020.5	14	36.0			
	6100	KISV	3	1010.4	1011.2	1.3	7.0			
	1415	SGMR	41	1011.3	1029.3	18.7	52.8	15.8		
	930	BORD	41	1011	1017.1	11	33.0	2.0		
	10500	BERN	45	1013.3	1015.2	6	11.0			
	6100	KISV	40	1013.4	1014.4	5	13.0			
	606	SGMR	41	1013.2	1013.3	5.2	7.4	1.5		
	245	SGMR	6	1014.8	1016.2	7.9	38.5	11.6		
	207	IZMI	41	1014.6	1015	2	450.0			
	808	ONDR	45	1015.5	1017	3.5	85.0			
	410	SGMR	6	1015.2	1016	6.6	65.4	19.6		
	221	ABST	48	1015.8	1016.2	1	32.0	9.0		

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6	536	ONDR	5	1016	1016	.5	80.0			
	10500	BERN	41	1026.7	1027.3	25	1304.0			
	930	BORD	45	1027	1027.9	1	13.0	2.0		
	1470	BERL	4	1029	1029.2	1.5	62.0	24.0		
	6100	KISV	41	1033.4	1037.5	12.3	230.0D			
	8800	ATHN	47	1034.4	1036.9	8.2	810.0	243.0		
	4995	SGMR	47	1034.8	1036	10.2	159.0	160.0		
	4995	SGMR	47		1037.3		534.0			
	4995	ATHN	46	1034.1	1036.9	9.5	395.0	119.0		
	3000	BERL	4	1034	1037.1	9	320.0			
	2695	SGMR	46	1034.8	1035.9	11.4	87.6	71.4		
	2695	SGMR	46		1037.3		240.0			
	2695	ATHN	46	1034.3	1036.9	9.8	232.0	69.6		
	1470	BERL	4	1034	1036	8.5	230.0			
	1415	SGMR	46	1034.2	1036.2	8.7	206.0	86.4		
	1415	SGMR	46		1037		290.0			
	1415	ATHN	46	1034.3	1036.5	9	365.0	110.0		
	930	BORD	45	1034	1037.2	7	195.0	20.0		
	808	ONDR	45	1034.5	1037	7	190.0			
	15400	SGMR	47	1035.6	1037.4	4.7	1638.0	491.0		
	9500	BERL	4	1035	1037	2	890.0			
	9240	ARCE	45	1035.2	1037.4	6.3				
	9240	ARCE		1035.2	1036.2	2				
	9240	ARCE		1037.2	1037.4	4.3				
	9100	GORK	3	1035	1037	4.5	705.0	350.0		
	8800	SGMR	47	1035.4	1036	5.4	270.0	340.0		
	8800	SGMR	47		1037.2		1370.0			
	606	SGMR	46	1035.6	1035.9	5.7	36.0	23.1		
	606	SGMR	46		1037.2		76.9			
	510	POTS	40	1035.5U	1035.7U	4.5U	140.0	2.0		
	245	SGMR	6	1035.9	1037.2	4.8	163.0	48.5		
	234	POTS	40	1035.8	1035.8	3.9	500.0	2.0		
	221	ABST	48	1035.5	1035.8	3.5	27.0	9.0		
	207	IZMI	41	1035.8	1037.5	4	250.0			
	113	POTS	45	1035.8	1035.9	4.2	2000.0	70.0		
	29	UPIC	45	1035		5				
	35000	SGMR	47	1036.3	1037.1	3.7	1556.0	622.0		
	1900	SLOU	3	1036	1037.5	3	1832.0D			
	536	ONDR	45	1036.5	1038	7	75.0			
	410	SGMR	6	1036	1036.2	4.3	83.6	25.1		
	7100	SLOU	3	1037.5	1037.6	.4	540.0			
	3700	SLOU	3	1037.5	1037.8	1	880.0U			
	2800	OTTA	23	1050	1150	290	17.6	5.8		
	1470	BERL	4	1054.5	1055.5	2.5	13.0			
	10700	PENN	20	1055.9	1141.5	116	57.4	27.0		
	4995	SGMR	47	1058	1106	67.4	400.0	242.0		
	4995	SGMR	47		1111.7		605.0			
	4995	ATHN	46	1058	1111.1	25.3	418.0	78.0		
	2695	SGMR	47	1058	1106	67.1	204.0	245.0		
	2695	SGMR	47		1111.7		680.0			
	2695	ATHN	47	1100	1111	17.5	690.0	207.0		
	1415	SGMR	47	1100.5	1105.7	26.2	68.6	219.0		
	1415	SGMR	47		1112		580.0			
	3000	BERL	46	1101	1111.3	7.5	860.0			
	930	BORD	45	1101	1101.5	1	12.0	2.0		
	8800	SGMR	47	1102.7	1106	62.4	670.0	320.0		
	8800	SGMR	47		1111.7		800.0			
	8800	ATHN	46	1102.6	1111	19.9	425.0	128.0		
	1470	BERL	46	1102.5	1112.5	17	700.0			
	1415	ATHN	47	1102.5	1111.5	20	540.0	162.0		
	960	PENN	45	1102 E						
	410	SGMR	49	1102.8	1110.6	46.2	4475.0	1790.0		
	245	SGMR	49	1102.8	1110.6	57.2	5680.0	2272.0		
	9500	BERL	46	1103	1111.4	18	500.0			
	2800	OTTA	47	1103	1111.5	15.5	780.0	134.0		
	536	ONDR	45	1103	1112	13.5	125.0			
	15400	SGMR	47	1104.9	1105.9	59.1	309.0	173.0		
	15400	SGMR	47		1111.1		578.0			
	10500	BERN	45	1104.2	1105.9	16	380.0			
	10500	BERN		1104.2	1111.6		487.0			
	10500	BERN			1112.8		270.0			
	9240	ARCE	46	1104.8	1111.8	17				
	9240	ARCE		1104.8	1106.1	5.6				
	9240	ARCE		1110.4	1111.8	2.6				
	9240	ARCE		1113	1113.1	8.8				
	930	BORD	45	1104	1112	25	610.0	88.0		
	550	KIEV	41	1104	1111.8	50	104.0D			
	29	UPIC	45	1104		10				
	10700	PENN	3	1105.1	1106.2	4.9	453.0	168.0		
	9100	GORK	3	1105	1105.5	2.5	426.0	213.0		
	3700	SLOU	3	1105.5	1106.5	4	100.0			
	1900	SLOU	3	1105	1106	5	206.0			
	808	ONDR	45	1105	1111.5	12	260.0			
	606	SGMR	46	1105	1106.1	29.2	62.0	47.1		
	606	SGMR	46		1111.7		157.0			
	228	HARS	45	1105	1105.5	1.5	180.0	50.0		
	18	MCMA	6	1105	1107	3			1	
	35000	SGMR	47	1110.3	1111.1	13.7	2000.0	800.0		
	10700	PENN	47	1110.3	1111.8	10.6	554.0	58.9		
	9100	GORK	3	1110	1111.5	3	600.0	300.0		

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JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
6	3700	SLOU	45	1110.2	1111.7	4	880.0D			
	1900	SLOU	45	1110.2	1111.3	4	725.0			
	510	PDTS	41	1110.5	1110.6	24	500.0	1.0		
	234	PDTS	41	1110.5	1110.6	17	40000.0	200.0		
	228	HARS	45	1110.5	1111.5	2	220.0	70.0		
	247	IZMI	48	1110.2	1111	2.5	19800.0			
	247	IZMI	48	1110.2	1111	.4	19800.0	7000.0		
	247	IZMI	48	1110.2	1111.6	.5	8600.0	3000.0		
	113	PDTS	41	1110.5F	1111.3	17.0	140000.0	35.0		
	7100	SLOU	3	1111.3	1111.4	.3	666.0			
	18	MCMA	6	1111	1113	3				
	3000	BERL	40	1118.5	1125.2	13	22.0		1	
	247	IZMI	41	1119.4	1126	10	250.0			
	2800	OTTA	40	1120	1125.5	8	8.0			
	1470	BERL	3	1120	1125.5	9	21.0			
	10700	PENN	3	1124.9	1125.6	2.1	49.2	10.1		
	10500	BERN	4	1124.6	1125.4	3	46.0			
	9500	BERL	3	1124	1129.2	7	64.0			
	228	HARS	45	1124.5	1125	1.5	90.0	25.0		
	9240	ARCE	2	1125.3	1125.7	1.7				
	1900	SLOU	3	1125	1125.4	.7	107.0			
	29	UPIC	45	1125	1125.5	1.5				
	10500	BERN	3	1128.7	1129.7	2	38.0			
	10700	PENN	3	1129.3	1129.5	1.3	41.0	16.4		
	9240	ARCE	3	1129.3	1129.6	2				
	4995	ATHN	4	1135.7	1145	10.9	24.5	7.4		
	2695	ATHN	4	1136.7	1145.3	10.8	20.0	6.7		
	8800	ATHN	4	1137.4	1145	8.6	16.9	5.1		
	1415	ATHN	46	1138.9	1141	10.1	330.0	99.0		
	1415	SGMR	46	1139	1141.6	22.2	349.0	105.0		
	1415	SGMR	46		1143.9		132.0			
	9500	BERL	40	1140	1145.3	7	61.0			
	3000	BERL	40	1140	1145.4	16	42.0			
	2800	OTTA	2	1140	1141.5	2	10.2	5.1		
	1470	BERL	46	1140	1141.8	15	355.0			
	960	PENN	45	1140.9	1145.7	6	16.3	2.4		
	930	BORD	45	1140	1145.7	9	29.0	7.0		
	29	UPIC	45	1140		5				
	18	MCMA	6	1140	1142	3				
	10700	PENN	3	1144.9	1145.7	6.4	16.4	4.6	1	
	2800	OTTA	3	1144.5	1145.7	3.5	15.2	7.4		
	10500	BERN	4	1145.2	1146	4	17.0			
	6100	KISV	41	1149.5	1157	34	407.0			
	7000	SAOP	20	1150 E		59	38.2			
	3000	BERL	3	1154.5	1154.7	1	30.0			
	2800	OTTA	1	1154.5	1154.6	1	3.8	1.9		
	1470	BERL	3	1154	1154.5	1	11.0			
	18	MCMA	6	1157	1159	3				
	930	BORD	45	1202	1206	7	10.0	4.0	1	
	2800	OTTA	40	1214.5	1215.1	1	3.2			
	1470	BERL	3	1221.5	1222.5	2	10.0			
	2800	OTTA	8	1235.8	1235.8		5.0			
	1470	BERL	3	1235.5	1235.7	2	12.0			
	18	MCMA	41	1247	1255	7			1	
	1420	BOUL	45	1250	1253.5	7.5	86.0	35.0		
	9400	HUAN	4	1251.2	1256.4	8.5	36.6	5.8		
	1470	BERL	46	1251.9	1252.5	6.7	150.0			
	1415	SGMR	46	1251.7	1252.4	8.1	309.0	93.0		
	1415	SGMR	46		1256.5		63.1			
	1415	ATHN	46	1251.5	1252.2	5.9	295.0	88.5		
	9240	ARCE	41	1252.7	1256.7	6.2				
	9240	ARCE	1	1252.7	1252.8	.7				
	8800	SGMR	46	1252.4	1254.3	9.6	14.3	15.9		
	8800	SGMR	46		1256.2		52.9			
	7000	SAOP	1	1252	1252.5	1.5	7.1			
	4995	SGMR	46	1252.3	1254.3	9.7	3.6	6.6		
	4995	SGMR	46		1256.3		22.7			
	4995	ATHN	4	1252	1256.2	5.5	19.6	5.9		
	3000	BERL	46	1252	1252.5	6	21.0	5.3		
	2800	OTTA	41	1252	1252.5	6	17.8			
	2695	SGMR	46	1252.3	1254.3	6	5.2	3.2		
	2695	SGMR	46		1256.3		10.7			
	2695	BOUL	45	1252.5	1253	9	15.0	3.0		
	2695	ATHN	4	1252.2	1252.3	4.9	13.4	4.0		
	410	SGMR	6	1252.6	1253.9	3.9	76.0	22.8		
	10700	PENN	45	1253.9	1256.4	4.4	34.0	7.3		
	9500	BERL	3	1253.7	1256.2	4.8	34.0	11.0		
	8800	ATHN	4	1253.6	1256.7	5.2	28.7	8.6		
	7000	SAOP	1	1253.5	1254.2	1.1	7.9			
	245	SGMR	6	1253.8	1253.9	2.6	30.9	9.3		
	15400	SGMR	4	1254.1	1256.3	6.4	29.2	8.8		
	10500	BERN	45	1254.1	1254.6	6	17.0			
	10500	BERN			1256.7		37.0			
	9240	ARCE	1	1254.2	1254.6	1.1				
	7000	SAOP	1	1254.6	1256.3	3.5	28.4	14.2		
	606	SGMR	1	1254.2	1256	5.8	2.5	1.0		
	9240	ARCE	3	1255.9	1256.7	3				
	4995	BOUL	8	1255	1256.5	3	27.0	10.0		
	1470	BERL	3	1336.5	1348	16	58.0	4.3		
	1420	BOUL	8	1336.5	1337	1	4.0	1.0		

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6	7000 SAOP	4	1343.6	1349.6	11	80.8	40.4		
	18 MCMA	6	1345	1348	4			2	
	9400 HUAN	3	1346.6	1349.6	5.2	96.1	18.0		
	3000 BERL	3	1346	1349.5	5	19.0	4.5		
	15400 SGMR	4	1347.5	1349.5	3.5	131.0	39.3		
	10700 PENN	45	1347.3	1349.6	6.5	106.0	13.1		
	10500 BERN	45	1347.2	1347.8	5	15.0			
	10500 BERN			1349.8		110.0			
	9500 BERL	3	1347	1349.4	4.5	78.0	17.0		
	9240 ARCE	28	1347.6	1347.9	2.1				
	8800 SGMR	46	1347.1	1347.5	4.7	18.9	37.3		
	8800 SGMR	46		1349.5		124.0			
	8800 ATHN	4	1347.1	1349.3	5.7	128.0	30.4		
	4995 BOUL	45	1347.5	1349.5	3.5	34.0	9.0		
	4995 SGMR	46	1347.1	1347.9	4	11.2	11.8		
	4995 SGMR	46		1349.5		39.2			
	4995 ATHN	4	1347.1	1349.3	9.4	31.4	9.8		
	2800 OTTA	1	1347	1348.5	4	4.6	2.3		
	2800 OTTA	8	1347.5	1347.5		8.8			
	2695 SGMR	46	1347.2	1347.5	4	3.8	3.2		
	2695 SGMR	46		1349.5		10.7			
	2695 ATHN	4	1347.3	1349.3	3.3	46.8	15.0		
	1420 BOUL	45	1347.5	1348	4	39.0	12.0		
	1415 SGMR	46	1347.2	1347.8	3.8	6.7	17.3		
	1415 SGMR	46		1349.5		57.6			
	1415 ATHN	2	1347.1	1347.6	2.9	8.6	2.2		
	960 PENN	45	1347.3	1347.4	2.7	20.4	1.8		
	930 BORD	45	1347	1347.5	3	36.0	2.0		
	245 SGMR	6	1347.2	1348.3	4	36.7	11.0		
	113 POTS	41	1347.4	1348.3	6	700.0	10.0		
	2695 BOUL	45	1348	1351	4	16.0	5.0		
	234 POTS	5	1348.3	1348.3	.1	120.0	40.0		
	9240 ARCE	4	1349.7	1349.9	2.9				
	2800 OTTA	8	1349.3	1349.5	.7	15.2	7.6		
	536 ONMR	45	1349	1349.5	1.5	60.0			
	510 POTS	45	1349.3	1349.7U	.7	30.0	5.0		
	410 SGMR	6	1349.2	1349.5	1.5	46.6	13.9		
	606 SGMR	2	1350.3	1351.2	1.5	6.2	1.9		
	1420 BOUL	3	1408.5	1410.5	4.5	2.0	1.0		
	1470 BERL	4	1418	1418.7	1.5	3.6	1.5		
	1420 BOUL	45	1418	1419	2	3.0	1.0		
	9400 HUAN	20	1501.3	1513.7	28.1	6.8	2.4		
	9240 ARCE	23	1504.2	1635.2	127				
	2800 OTTA	2	1520	1520.5	1	1.8	0.9		
	2695 SGMR	1	1520.2	1520.7	.7	2.6	.5		
	2695 ATHN	1	1520.6	1521	1.2	5.0	1.7		
	1420 BOUL	8	1520	1520.5	1.5	27.0	11.0		
	1415 SGMR	4	1520.2	1520.6	5.7	39.8	8.0		
	1415 ATHN	4	1520.7	1520.8	.9	30.2	8.6		
	2695 BOUL	3	1521	1521.5	1	4.0	1.0		
	18 MCMA	42	1521	1527	7			1	
	18 MCMA	42	1532	1536	5			1	
	2800 OTTA	1	1533	1533.2	1	5.6	1.9		
	2695 BOUL	8	1534	1534.5	2	6.0	2.0		
	7000 SAOP	21	1608		40	25.7			
	1420 BOUL	45	1620.5	1623	3.5	57.0	13.0		
	18 MCMA	6	1620	1622	3			1	
	10700 PENN	3	1621.4	1622.3	3.6	23.6	5.7		
	9400 HUAN	3	1621.4	1622.3	5.1	21.7	4.7		
	8800 ATHN	4	1621	1622.5	2.7	30.4	8.5		
	4995 BOUL	3	1621	1622	2	15.0	5.0		
	4995 ATHN	2	1621.5	1623.5	2.5	6.9	2.0		
	2800 OTTA	3	1621.5	1622	2	14.6	5.0		
	2695 ATHN	2	1621.8	1622.2	1.7	3.3	1.7		
	1415 PALE	4	1621.3	1622.2	2	44.0	13.0		
	1415 ATHN	46	1621.2	1622.4	2.3	128.0	53.4		
	960 PENN	1	1621.7	1622.2	1	5.1	1.7		
	930 BORD	45	1621	1622.2	2	10.0	2.0		
	9240 ARCE	3	1622	1622.7	3.6				
	2695 BOUL	8	1622.5	1623.5	2.5	13.0	5.0		
	7000 SAOP	20	1623.7		2.2	10.6			
	8800 SGMR	2	1642.5	1643.2	6.1	4.6	1.4		
	8800 ATHN	2	1642.4	1642.9	5.4	5.1	1.7		
	4995 SGMR	2	1642.4	1643.9	9.5	5.8	2.5		
	4995 ATHN	2	1642.4	1642.9	5.6	7.8	2.0		
	2695 SGMR	2	1642.5	1642.9	9.5	4.3	1.3		
	2695 PENT	1	1642.5	1643	1	2.6	1.3		
	2695 ATHN	2	1642	1642.9	10.2	5.0	1.7		
	1415 PALE	4	1642.5	1642.8	.8	27.1	8.1		
	1415 ATHN	4	1642.4	1642.9	8.4	31.3	8.6		
	18 MCMA	41	1642	1643	6			1	
	1415 SGMR	3	1647.4	1647.5	1	10.8	3.2		
	1415 PALE	1	1647.5	1647.6	1.1	9.9	6.6		
	1415 SGMR	22	1658	1733.9	80	6.4	3.8		
	2800 OTTA	22	1704	1733	42	2.6	1.6		
	18 MCMA	41	1704	1706	19			1	
	1420 BOUL	45	1705.5	1706	2.5	3.0	1.0		
	930 BORD	45	1705	1705.7	2	25.0	2.0		
	18 MCMA	42	1731	1733	15			1	
	1420 BOUL	45	1732	1732.5	2.5	4.0	1.0		

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6	7000	SAOP	28	1742.1		18.5	98.7	49.4		
	7000	SAOP	45	1800.7	1804.2	19	2053.2	183.1		
	18	MCMA	6	1805	1807	3			1	
	2800	OTTA	28	1815	1842	27	5.0	2.5		
	7000	SAOP	29	1819		11	100.0	50.0		
	8800	PALE	28	1830	1841.8	11.8	43.1	21.6		
	10700	PENN	45	1837.5		123				
	8800	SGMR	47	1838.4	1904	86.1	1005.0	380.9		
	8800	SGMR	47		1904.7		1420.0			
	9400	HUAN	28	1839.4	1843.3	3.9	33.9	11.3		
	8800	PALE	47	1841.8	1904	99.7	970.0	410.0		
	8800	PALE	47		1904.6	11.8	1400.0			
	4995	BOUL	45	1841.5	1905	119	312.0	59.0		
	1415	SGMR	46	1841.5	1916.7	89.5	258.6	77.6		
	1415	SGMR	46		1948		152.4			
	15400	SGMR	47	1842.1	1904.1	64.6	1326.0	436.8		
	15400	SGMR	47		1904.8		1456.0			
	4995	SGMR	47	1842.2	1904	82.4	554.0	166.6		
	4995	SGMR	47		1904.7		560.0			
	2800	OTTA	46	1842	1905	106	308.0	42.0		
	2800	OTTA		1842	1845	7	62.0			
	2800	OTTA		1856	1905	10	308.0			
	2800	OTTA		1909	1910	35	148.0			
	2800	OTTA		1941.5	1948.5	46.5	63.0			
	2695	SGMR	46	1842.2	1904.1	82.3	323.0	115.0		
	2695	SGMR	46		1904.7		383.0			
	1420	BOUL	45	1842.5	1913	135	154.0	17.0		
	9400	HUAN	47	1843.3	1905.1	22.4	361.5	182.4		
	9400	HUAN		1843.3	1904.7		1354.0			
	2695	BOUL	45	1843	1906.5	125	177.0	35.0		
	1415	PALE	46	1843.5	1904	98	130.0	88.0		
	1415	PALE	46		1914.5		290.0			
	1415	PALE	46		1947.8		170.0			
	18	BOUL	42	1843	1903	28			1	
	960	PENN	40	1844.6		16.5				
	18	MCMA	41	1844	1847	31			1	
	410	SGMR	7	1852.1	1917.4	99.2	318.5	95.6		
	606	SGMR	47	1853.3	1903.2	79.9	1110.0	270.0		
	606	SGMR	47		1944.5		275.0			
	245	SGMR	7	1855.1	1903.6	89.4	477.9	143.4		
	35000	SGMR	47	1856.4	1904.1	22.8	1550.0	465.0		
	35000	SGMR	47		1904.8		1102.4			
	3700	SLOU	46	1901.8	1904	7	1880.0			
	1900	SLOU	46	1901	1904.2	8	1489.0			
	960	PENN	45	1903 E		26 D	130.0D			
	9400	HUAN	29	1905.7	1905.7	82.7	270.8	91.5		
	18	BOUL	42	1935	1949	36			1	
	18	MCMA	41	1936	1938	3			1	
	960	PENN	45	1940.3	1951.7	59.7	118.0	31.0		
	200	HIRA	45	1941.5		63.5		30.0		
	200	HIRA		1941.5	1950.6		90.0			
	200	HIRA		1941.5	1952.8		90.0			
	200	HIRA		1941.5	2009		90.0			
	15400	SGMR	29	1946.7	1946.7	52.2	12.8	5.1		
	18	MCMA	6	1946	1949	9			1	
	8800	SGMR	29	2004.5	2004.5	37.2	27.3	10.9		
	4995	SGMR	29	2004.6	2004.6	34.2	36.0	14.4		
	2695	SGMR	29	2004.5	2004.5	33	62.6	25.0		
	1415	SGMR	29	2011	2011	26.1	20.4	8.2		
	606	SGMR	29	2013.2	2013.2	20.8	19.5	7.8		
	8800	PALE	30	2021.5	2021.5	67	3.6	1.5		
	1415	PALE	30	2021.5	2021.5	64.9	7.7	3.4		
	2800	OTTA	30	2028	2028	52	12.0	6.0		
	8800	SGMR	2	2052.1	2052.4	2.8	6.3	3.7		
	4995	BOUL	8	2052	2052.5	2	16.0	6.0		
	4995	SGMR	4	2052.1	2052.6	2.5	12.2	3.7		
	2800	OTTA	1	2052	2052.5	3	8.4	2.8		
	2695	SGMR	4	2052.3	2052.9	2.6	10.2	3.1		
	2695	BOUL	21	2053	2053.5	27.5	10.0	3.0		
	18	BOUL	42	2102	2107	6			1	
	18	MCMA	42	2103	2110	8			1	
	4995	BOUL	45	2114.5	2116	3.5	14.0	4.0		
	18	BOUL	6	2114	2117	5			1	
	8800	PALE	4	2115.5	2117.3	3.5	21.8	5.8		
	4995	SGMR	2	2115.9	2116	2.3	8.6	2.6		
	2800	OTTA	8	2115.5	2115.6	.5	6.0	3.0		
	2695	SGMR	2	2115.8	2116.1	2	3.7	1.1		
	1420	BOUL	45	2115	2116.5	4.5	29.0	10.0		
	1415	SGMR	4	2115.1	2116	3.9	123.0	36.9		
	1415	PALE	4	2115.5	2116	2.8	140.0	14.6		
	2695	BOUL	45	2116	2117.5	6	9.0	3.0		
	8800	SGMR	4	2117	2118.8	2.7	18.5	5.5		
	606	SGMR	4	2117.2	2117.8	.9	64.9	19.5		
	410	SGMR	2	2117.1	2117.3	1.6	5.9	1.8		
	18	MCMA	41	2117	2120	4			1	
	18	BOUL	6	2137	2141	5			1	
	18	BOUL	41	2156	2159	10			1	
	2800	OTTA	26	2240	2300	20	-3.8	-1.9		
	2695	PENT	20	2305	2325	40	2.0	1.0		
7	100	HIRA	45	0123.4	0123.5	1	140.0	30.0		

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7	3750	TYKW	5	0154	0154.4	1	2.0	1.0		
	2000	TYKW	5	0154	0154.5	1	2.0	1.0		
	1415	MANI	4	0307.8	0307.9	3.4	17.1	4.5		
	1415	PALE	3	0307.7	0307.8	.5	36.6	11.0		
	3750	TYKW	5	0436	0447	60	13.0	5.0		
	2000	TYKW	5	0437	0448	60	5.0	2.0		
	200	GORK	44	0515		285		10.0		
	260	ONDR	44	0634	1013.5	567	170.0			
	29	UPIC	45	0635	0635.5	1				
	221	ABST	44	0700	1048.2	240	4.0			
	410	SGMR	44	0917 E	1221.5	902 D	10.8			
	245	SGMR	44	0917 E	1904	902 D	38.2			
	29	UPIC	44	1032.5		285				
	9100	GORK	1	0722	0726.5	9.5	2.8	1.4		
	9100	GORK	1	0806	0809.7	7.7	4.8	2.4		
	9100	GORK	1	0828	0828.7	2	6.9	3.4		
	9240	ARCE	20	0838.8	0926.6	68				
	9240	ARCE		0838.8	0917.7	46.8				
	9240	ARCE		0924.6	0926.6	21.2				
	9100	GORK	20	0839	0847	23.5	5.4	2.7		
	29	UPIC	45	0854.5	0857	3.5				
	100	GORK	6	0855.8	0856.7	1	600.0			
	113	POTS	45	0856.4	0856.7	.4	150.0	15.0		
	29	UPIC	45	0912	0912.5	2				
	9100	GORK	21	0915	0954	105 D	26.0			
	6100	KISV		0924	0926.3	23	7.0			
	9240	ARCE	21	0954.1	1022.5	72.5				
	100	GORK	6	0957.8	0957.9	.5	60.0	30.0		
	9500	BERL	46	1001	1010.6	53	217.0	56.0		
	6100	KISV	41	1003.3	1010.3	17	207.0			
	10500	BERN	45	1004.5	1006	16	250.0			
	10500	BERN			1008.7		196.0			
	10500	BERN			1010.4		258.0			
	10500	BERN			1013.4		80.0			
	9240	ARCE	46	1004.8	1010.5	16.3				
	9240	ARCE		1004.8	1006	2.3				
	9240	ARCE		1007.1	1008.8	2.4				
	9240	ARCE		1009.5	1010.5	3.6				
	9240	ARCE		1013.1	1013.5	.8				
	8800	ATHN	45	1004.8	1010.1	9.4	150.9	45.3		
	4995	SGMR	46	1004.9	1008.7	13.4	109.1	43.6		
	4995	SGMR	46		1010.4		217.8			
	4995	ATHN	45	1004.7	1010.1	9.3	187.2	56.1		
	35000	SGMR	46	1005.6	1008.6	16.4	389.4	77.9		
	35000	SGMR	46		1010.1		354.0			
	15400	SGMR	46	1005.6	1006.1	16.4	262.4	63.1		
	15400	SGMR	46		1010.5		315.5			
	9100	GORK	45	1005	1006.2	13	216.0			
	9100	GORK		1005	1008.5		173.0			
	9100	GORK		1005	1010		242.0			
	8800	SGMR	46	1005.3	1006	20.4	215.0	58.2		
	8800	SGMR	46		1010.3		291.0			
	3000	BERL	46	1005	1010.5	65	219.0	66.0		
	2695	SGMR	46	1005.3	1010.5	15.1	180.7	36.1		
	2695	SGMR	46		1013.4		88.0			
	2695	ATHN	45	1005.1	1010.1	9.1	136.7	41.0		
	1900	SLOU	46	1005.8	1008.8	6	345.0			
	1470	BERL	46	1005.5	1010.6	47	112.0	40.0		
	1415	SGMR	46	1005.4	1008.7	17.3	149.3	29.9		
	1415	SGMR	46		1010.8		106.7			
	1415	ATHN	45	1005.2	1010.2	9.1	84.5	25.4		
	930	BORD	45	1005	1010	19	130.0	8.0		
	606	SGMR	46	1005.5	1010.4	8.7	18.3	7.7		
	606	SGMR	46		1011		32.1			
	3700	SLOU	46	1006	1009	6	260.0			
	808	ONDR	45	1006	1014	18	100.0			
	536	ONDR	45	1008	1011	7	50.0			
	510	POTS	41	1008.5	1010.8U	5	70.0	2.0		
	550	KIEV	41	1009.5	1012.2	5.5	21.0			
	234	POTS	45	1013.3	1013.3	.1	500.0	150.0		
	8800	ATHN	29	1014.2	1014.2	4	13.1	3.9		
	4995	ATHN	29	1014	1014	5.5	5.9	1.8		
	2695	ATHN	29	1014.2	1014.2	2.6	9.9	3.0		
	1415	ATHN	29	1014.3	1014.3	2.3	2.9	.9		
	29	UPIC	45	1015	1020	8				
	4995	SGMR	29	1018.3	1018.3	27.7U	29.5	11.8U		
	2695	ATHN	1	1019.5	1019.9	.9	3.6	1.7		
	1415	ATHN	1	1019.6	1019.8	.5	8.6	2.6		
	2695	SGMR	29	1020.4	1020.4	25.6U	15.5	6.2U		
	35000	SGMR	29	1022	1022	24 U	106.2	42.5U		
	15400	SGMR	29	1022	1022	24 U	69.1	27.7U		
	1415	SGMR	29	1022.7	1022.7	23.3U	6.2	2.5U		
	8800	SGMR	29	1025.7	1025.7	13.1U	6.7	2.7U		
	221	ABST	48	1047.8	1048.2	1	22.0	7.0		
	29	UPIC	45	1055	1055	2				
	9240	ARCE	21	1137	1156.5	130				
	8800	ATHN	3	1150.3	1156.3	17.5	15.9	4.8		
	10500	BERN	45	1153.5	1158.1	10	15.0			
	9400	HUAN	20	1153.8	1155.8	14.9	14.4	7.0		
	4995	ATHN	20	1154.8	1156.9	11.9	3.2	1.9		

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7	7000 SAOP	20	1155.6		7	10.4			
	8800 ATHN	45	1211.4	1220.2	17.6	69.0	20.7		
	10700 PENN	45	1214.6	1220.1	18	62.6	19.0		
	10500 BERN	45	1215.9	1219.9	15	59.0			
	10500 BERN			1222.8		45.0			
	9400 HUAN	45	1215.8	1220.1	15.1	58.8	20.4		
	15400 SGMR	4	1216.4	1220.2	22.8	55.7	16.7		
	9500 BERL	46	1216	1220	20	55.0	17.0		
	9240 ARCE	4	1216.7	1220.3	16				
	8800 SGMR	4	1216.3	1220.1	15.8	71.8	22.8		
	7000 SAOP	20	1216.3		17.2	53.4			
	4995 SGMR	46	1216.3	1221.9	20.7	56.2	12.6		
	4995 SGMR	46		1224.6		63.0			
	4995 ATHN	4	1216.5	1224.7	16	53.0	15.9		
	2800 OTTA	21	1216	1257	95	10.2	5.0		
	3000 BERL	46	1218	1224.5	12	49.0	16.0		
	2800 OTTA	46	1219	1224.7	12	37.0	12.5		
	2800 OTTA		1219	1221.5	3.3	26.0			
	2800 OTTA		1223.3	1224.7	8.7	37.0			
	2695 SGMR	46	1219.4	1221.7	10	26.4	8.2		
	2695 SGMR	46		1224.7		40.9			
	510 POTS	45	1219.5	1221 U	8.5	105.0	1.0		
	2695 ATHN	4	1220.5	1224.7	8.5	35.4	10.6		
	1415 ATHN	4	1220.5	1224.8	7.2	13.9	4.2		
	930 BORD	45	1220	1221.5	8	300.0	10.0		
	606 SGMR	2	1220.8	1226	7.9	6.3	1.9		
	1470 BERL	46	1221	1224.6	9	18.0	3.9		
	1415 SGMR	4	1221.1	1224.8	7	15.4	4.6		
	960 PENN	45	1221.2	1221.6	5.4	127.0	4.3		
	410 SGMR	6	1221.2	1225.2	5.7	3.9	1.2		
	868 ONDR	45	1222	1226	6.5	75.0			
	29 UPIC	45	1222		5.5				
	315 DWIN	45	1223.1	1223.8	2.4	375.0	50.0		
	245 SGMR	6	1223.7	1224.8	4.5	26.5	8.0		
	234 POTS	45	1225.5	1225.5	.1	100.0	25.0		
	113 POTS	45	1225.4	1225.4	.2	350.0	20.0		
	3000 BERL	20	1240	1300	70	11.0			
	9500 BERL	20	1247	1305	58	8.2			
	1470 BERL	20	1248	1301.5	59	3.5			
	18 MCMA	6	1402	1404	3			1	
	4995 BOUL	3	1451.5	1453	3	10.0	4.0		
	4995 SGMR	2	1451.9	1453.3	2.5	4.7	1.4		
	8800 SGMR	1	1452.2	1453	1.7	4.2	1.3		
	2800 OTTA	1	1452	1453.5	3	1.2	0.6		
	2695 SGMR	1	1452.1	1453.5	2.9	1.6	.5		
	2800 OTTA	26	1500	1540	85	-8.6	-4.3		
	8800 SGMR	3	1512.8	1513.8	13.8	11.3	3.4		
	8800 ATHN	3	1512.6	1513.7	3	12.4	3.7		
	7000 SAOP	3	1512.5	1513.7	15.2	12.1	6.0		
	4995 BOUL	8	1512	1513.5	6.5	20.0	6.0		
	4995 SGMR	22	1512.6	1513.6	20.6	9.0	2.7		
	2800 OTTA	1	1512.5	1513.5	5	2.2	1.1		
	2695 SGMR	1	1512.7	1513.6	6.5	1.2	.4		
	2695 ATHN	3	1512.6	1513.7	4.1	12.7	3.8		
	18 MCMA	42	1609	1617	9			1	
	18 BOUL	6	1611	1613	3			1	
	2800 OTTA	23	1625	1918	275	9.0	4.5		
	7000 SAOP	20	1653.2		7.8	9.1			
	4995 BOUL	45	1713	1722.5	13	14.0	5.0		
	10700 PENN	1	1717	1718.7	3	9.0	3.6		
	8800 PALE	4	1717.8	1718.2	2.5	25.9	2.3		
	7000 SAOP	3	1717.3		26	14.6	7.3		
	8800 SGMR	22	1820.2	1831.8	29.2	8.8	5.3		
	4995 SGMR	22	1820.1	1830.5	28.4	10.1	6.1		
	7000 SAOP	20	1822.9		22.4	16.6			
	2695 SGMR	20	1826	1839.5	20.6	3.4	2.0		
	15400 SGMR	22	1828.5	1841.3	21.2	12.4	7.4		
	18 BOUL	6	1841	1844	3			1	
	18 MCMA	6	1843	1846	4			1	
	100 HIRA	45	2046.5	2046.8	1	160.0	40.0		
	18 MCMA	42	2047	2048	3			1	
	2695 SGMR	22	2102.8	2117.4	33.8	7.4	3.0		
	2800 OTTA	21	2105	2140	75	4.8	2.4		
	4995 SGMR	22	2108.5	2117.4	31.3	24.8	9.9		
	8800 SGMR	22	2114	2117.5	35.7	17.6	7.1		
	8800 PALE	22	2114.5	2117.2	98.2	22.1	10.6		
	4995 BOUL	45	2115.5	2117	9.5	18.0	5.0		
	4995 BOUL	45	2115.5	2118	9.5	18.0	5.0		
	2800 OTTA	2	2115	2117.2	6.5	5.8	2.9		
	2695 BOUL	45	2116.5	2119	7.5	7.0	2.0		
	18 MCMA	41	2212	2216	8			1	
	2695 PENT	8	2340.2	2340.3	.5	3.4	1.7		
	100 HIRA	45	2340	2340.9	2	1000.0D	500.0D		
	18 MCMA	6	2342	2343	2			1	
8	2000 TYKW	45	0130	0245	210	6.0	3.0		
	9400 TYKW	5	0140	0250	200	16.0	8.0		
	3750 TYKW	45	0140	0250	200	8.0	4.0		
	2695 PENT	20	0140	0145	12 D	5.6			
	100 GORK	6	0339.2	0339.3	.2	50.0D			

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8	100	HIRA	45	0349.6	0349.8	1	1000.0D	500.0D		
	100	GORK	41	0349.6	0350 U	2.3	50.0D			
	100	GORK		0349.6	0351.1U		50.0D			
	100	HIRA	45	0350.7	0351	1	1000.0	300.0		
	100	GORK	41	0508.3	0508.9	4.7	50.0D			
	100	GORK		0508.3	0512.8		50.0			
	234	POTS	45	0612	0612	.1	160.0	40.0		
	113	POTS	45	0612	0612.1	.5	14000.0	2000.0		
	100	HIRA	45	0612	0612.2	1	1000.0D	200.0D		
	100	GORK	6	0612.1	0612.5U	1	50.0D			
	1415	MANI	4	0623.9	0625.2	2.1	14.1	2.3		
	606	MANI	40	0623	0625.3	5.3	7.7	1.5		
	100	GORK	42	0626.6	0626.9U	32.1	60.0D			
	100	GORK		0626.6	0631.3		60.0D			
	100	GORK		0626.6	0633		60.0D			
	100	GORK		0626.6	0642.3		60.0D			
	100	GORK		0626.6	0652		60.0D			
	100	GORK		0626.6	0656.4		50.0			
	3100	CRIM	20	0630	0730	82	3.0	1.0		
	113	POTS	40	0632.7	0632.7	.2	2000.0	160.0		
	100	HIRA	45	0632.5	0632.8	1	800.0	100.0		
	260	ONDR	44	0640	0801	510	100.0			
	410	SGMR	44	0918 E	1903.4	900 D	38.2			
	245	SGMR	44	0918 F	1954.9	900 D	138.9			
	100	GORK	43	1042		138		5.0		
	200	GORK	43	1106		120		10.0		
	234	POTS	45	0651.8	0651.9	.1	200.0	50.0		
	113	POTS	40	0651.6	0651.9	.5	800.0	100.0		
	234	POTS	41	0758.1	0800	3.2	500.0	12.0		
	221	ABST	6	0758.2	0758.2	.8	4.0			
	200	HIRA	45	0758		1	180.0D	60.0D		
	200	HIRA	45	0758		1	180.0D	60.0D		
	113	POTS	40	0758.2	0800.8	3.3	10000.0	500.0		
	100	HIRA	45	0758.2	0758.5	1.2	1000.0D	200.0D		
	100	GORK	41	0758.2	0758.6U	3.4	60.0D			
	100	GORK		0758.2	0801.4U		60.0D			
	1470	BERL	1	0800.5	0800.6	.7	4.7	1.2		
	221	ABST	6	0800	0800.5	1	4.0			
	100	HIRA	1 4	0801 U	0801 U	1	5 20.0	1 5.0	1	
	29	UPIC	45	0801	0801.5	1				
	100	GORK	6	0857	0857.2	.4	60.0	30.0		
	100	GORK	41	0910.8	0912.2	3.5	60.0			
	100	GORK		0910.8	0913		55.0			
	113	POTS	45	0923.7	0923.8	.6	1800.0	250.0		
	100	HIRA	45	0923.7	0923.8	1	1000.0D	400.0D		
	100	GORK	6	0923.7	0924 U	.8	60.0D			
	29	UPIC	45	0924	0924.5	1				
	100	GORK	41	0939	0939.1	8.1	60.0			
	100	GORK		0939	0946.4		60.0D			
	3100	CRIM	24	0942	1025		7.0			
	234	POTS	45	0945	0945.1	.3	100.0	20.0		
	113	POTS	45	0946.2	0946.3	.3	175.0	10.0		
	29	UPIC	45	0946	0946.5	1				
	9240	ARCE	25	1017		100				
	9100	GORK	20	1018	1023.2	30	7.7	3.8		
	9500	BERL	3	1020.5	1020.7	11 U	11.0	4.0		
	9240	ARCE	1	1020.6	1021	1.6				
	9100	GORK	1	1020.5	1021	2.5	11.5	6.0		
	3100	CRIM	1	1020	1021	2	3.0	1.0		
	3000	BERL	1	1020.5	1020.7	6.5	3.8	2.0		
	1470	BERL	1	1020.5	1020.9	.8	2.0	0.8		
	200	GORK	6	1137	1137.7	1.7	70.0	35.0		
	234	POTS	40	1143.4	1143.5	.5	100.0	2.0		
	113	POTS	45	1143.5	1143.5	1.4	600.0	20.0		
	550	KIEV	41	1152.9	1230.5	42.5	118.0D			
	9500	BERL	20	1225	1231	21	4.0			
	3000	BERL	1	1229	1230	4	3.2	0.7		
	100	GORK	6	1258.8	1259.4	1.2	60.0D			
	8800	ATHN	28	1305.8	1314.1	8.3	7.0	2.1		
	4995	ATHN	28	1309.2	1314.2	5	6.2	1.8		
	2800	OTTA	20	1310	1330	80	2.4	1.2		
	10500	BERN	3	1312.6	1316.6	6.5	21.0			
	9500	BERL	23	1312	1316	20	18.0	4.0		
	9400	HUAN	3	1312.8	1316.3	12	22.8	6.0		
	9240	ARCE	20	1312.6	1316.5	23				
	10700	PENN	3	1313.7	1316.4	9.8	17.3	3.5		
	8800	SGMR	4	1313.7	1316	11.8	22.7	6.8		
	7000	SAOP	21	1313.6		27.3	25.6			
	15400	SGMR	4	1314.8	1316.3	2.7	12.8	3.8		
	8800	ATHN	3	1314.1	1316.2	6.3	20.9	6.3		
	4995	ATHN	1	1314.2	1316.3	3.4	8.2	2.4		
	3000	BERL	22	1314	1316	43	3.2			
	4995	SGMR	1	1315.6	1316.2	1.6	6.4	2.6		
	2695	SGMR	1	1315.9	1316.3	3.4	1.9	.7		
	1470	BERL	1	1315.5	1316.4	1.1	1.6			
	4995	BOUL	3	1316	1316.5	1.5	9.0	3.0		
	7000	SAOP	1	1317.1	1317.9	1.2	20.2			
	113	POTS	45	1323	1323.2	.5	200.0	7.0		
	7000	SAOP	3	1345.7		28.2	18.3	9.1		
	8800	ATHN	1	1354.3	1354.7	1.4	5.2	1.6		

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8	3000 RERL	22	1400	1403.2	25	3.8	1.3		
	9500 RERL	22	1402.5	1404.3	28	12.0	2.7		
	9400 HUAN	22	1402.8	1405.5	4.9	18.8	5.6		
	8800 ATHN	40	1402.6	1405.6	4.7	10.4	3.1		
	4995 ATHN	40	1402.6	1403.6	5.3	3.1	.9		
	930 BORD	45	1402	1402.9	2	118.0	2.0		
	9240 ARCE	2	1403.2	1404.5	3				
	113 PDTS	40	1426.7	1426.7	1.2	200.0	3.0		
	18 MCMA	6	1440	1443	6			1	
	10500 BERN	3	1538.4	1540.8	13	300.0			
	8800 ATHN	4	1538.8	1540.6	2.8	387.0	232.0		
	4995 BOUL	8	1538.5	1541	2	167.0	64.0		
	960 PENN	45	1538.5	1540.6	5.9	135.0	3.4		
	15400 SGMR	4	1539.3	1540.5	3.7	299.0	89.7		
	10700 PENN	3	1539.4	1540.6	4.2	298.0	51.6		
	9400 HUAN	3	1539.1	1540.4	2.5	321.2	81.1		
	9240 ARCE	3	1539.1	1540.5	5.5				
	8800 SGMR	3	1539.1	1540.5	4.3	395.0	118.5		
	4995 SGMR	3	1539.3	1540.5	4.2	228.0	68.4		
	4995 ATHN	4	1539.3	1540.6	2.3	193.0	11.6		
	2800 OTTA	3	1539.8	1540.7	6	152.0	25.0		
	2695 SGMR	3	1539.8	1540.5	3.9	153.0	45.9		
	2695 ATHN	4	1539.7	1540.7	1.9	258.0	156.0		
	1415 SGMR	4	1539.7	1540.5	3.3	121.0	36.3		
	1415 ATHN	4	1539.8	1540.6	1.5	128.0	74.8		
	930 BORD	45	1539	1540.4	6	380.0	7.0		
	3700 SLOU	3	1540	1540.5	.7	140.0			
	2695 BOUL	45	1540	1541.5	13.5	80.0	22.0		
	1900 SLOU	3	1540	1540.8	2	309.0			
	1420 BOUL	45	1540	1542	18	49.0	15.0		
	606 SGMR	4	1540.3	1540.5	2.7	111.0	33.3		
	9400 HUAN	29	1541.6	1541.6	7.8	28.2	13.9		
	8800 ATHN	29	1541.6	1541.6	9.4	29.6	8.9		
	4995 ATHN	29	1541.6	1541.6	6.7	23.7	7.1		
	2695 ATHN	29	1541.6	1541.6	3.2	32.7	9.8		
	1415 ATHN	29	1541.3	1541.3	3	16.0	4.8		
	410 SGMR	6	1542	1542.6	1.3	22.7	6.8		
	15400 SGMR	29	1543	1543	85	23.0	9.2		
	10700 PENN	29	1543.6	1543.6	11.2	9.0	4.8		
	8800 SGMR	29	1543.4	1543.4	57.7	10.9	4.4		
	4995 SGMR	29	1543.5	1543.5	86	12.4	5.0		
	2695 SGMR	29	1543.7	1543.7	95.7	9.3	3.7		
	1415 SGMR	29	1543	1543	13.4	4.4	1.8		
	9240 ARCE	29	1544.6		100				
	2800 OTTA	30	1545.8	1545.8	180	4.8	3.0		
	2800 OTTA	1	1549.5	1550	1	1.4	0.7		
	7000 SAOP	3	1552.3	1542.3	6.6	391.9	92.2		
	4995 BOUL	3	1623	1624.5	2.5	9.0	3.0		
	2800 OTTA	1	1634.5	1634.9	1	2.0	1.0		
	930 BORD	45	1634	1634.5	1	380.0	10.0		
	2800 OTTA	8	1640	1640.3	2	38.0			
	18 MCMA	41	1745	1749	7			1	
	8800 SGMR	4	1853.3	1859.2	8.8	12.3	3.7		
	18 BOUL	6	1855	1957	5			1	
	4995 SGMR	2	1857.8	1859.2	2.2	8.4	3.4		
	2800 OTTA	2	1857	1859	3	3.4	1.5		
	2695 SGMR	2	1857.9	1859.3	1.9	2.8	1.1		
	18 MCMA	6	1858	1900	3			1	
	2695 BOUL	3	1859.5	1901	2.5	5.0	2.0		
	10700 PENN	1	1922.6	1923.2	3.2	8.4	3.2		
	200 HIRA	45	1954.5	1954.8U	1	180.0D	100.0D		
	100 HIRA	45	1954.4	1954.7	1.5	1000.0D	150.0D		
	100 HIRA	45	1957.4	1957.5	1.3	350.0	100.0		
	18 MCMA	42	1958	1959	4			1	
	15400 SGMR	3	2143.8	2144.6	2.7	46.1	13.8		
	245 SGMR	7	2143.2	2143.3	.4	379.0	151.0		
	200 HIRA	45	2143	2143.3	1	180.0D	60.0D		
	10700 PENN	3	2144.5	2144.7	9.7	58.1	6.3		
	9400 TYKW	5	2144	2144.7	2	45.0	13.0		
	9400 HUAN	3	2144.3	2144.6	.9	47.0	16.7		
	8800 SGMR	3	2144.4	2144.6	3	38.2	15.3		
	8800 PALE	3	2144.2	2144.5	5.1	730.0	220.0		
	4995 SGMR	1	2144.4	2144.6	1.1	4.4	1.3		
	2000 TYKW	5	2144	2144.7	2	4.0	1.0		
	1415 SGMR	1	2144.5	2144.6	.9	8.6	2.6		
	1415 PALE	3	2144.3	2144.5	5.2	5.0	1.5		
	1000 TYKW	5	2144	2144.7	1.5	99.0	20.0		
	960 PENN	8	2144.5	2144.6	.3	170.0			
	9400 HUAN	29	2145.2	2145.2	4.1	9.4	3.7		
	9400 TYKW	29	2146		12	7.0	3.0		
	8800 PALE	4	2218	2224.6	26.8	168.5	50.6		
	8800 SGMR	4	2221.5	2224.9	9	99.2	29.8		
	4995 SGMR	4	2222.5	2224.9	7.9	53.2	16.0		
	10700 PENN	45	2223.5	2224.9	6.9	127.0	39.7		
	8800 MANI	4	2223.7	2224.9	5.5	133.0	54.0		
	4995 BOUL	21	2223	2225	21	65.0	18.0		
	4995 MANI	4	2223.7	2225	4.9	68.0	18.2		
	2930 VORO	3	2223.5	2224.4	5.2	39.0			
	2695 MANI	4	2223.7	2225	4.3	31.8	5.2		
	1415 MANI	4	2223.7	2225.3	3.1	13.4	4.2		

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	15400	SGMR	46	2224.2	2225	6.4	73.2	22.0		
	15400	SGMR	46		2225.3		71.9			
	9400	TYKW	45	2224	2224.9	7	100.0	30.0		
	9400	HUAN	4	2224	2225.1	1.8	141.1	55.8		
	3750	TYKW	45	2224	2225	7	44.0	12.0		
	2800	OTTA	4	2224	2225	5	36.0	9.0		
	2695	BOUL	21	2224	2225.5	80.5	32.0	3.0		
	2695	SGMR	4	2224.4	2225.1	4.1	27.6	8.3		
	2000	TYKW	45	2224	2225	6	33.0	8.0		
	1420	BOUL	3	2224.5	2225	4	6.0	2.0		
	1415	SGMR	4	2224.7	2224.8	4.2	13.2	4.0		
	1415	PALE	4	2224.2	2225.2	20.6	55.4	11.1		
	1000	TYKW	45	2224	2224.9	2	103.0	12.0		
	960	PENN	45	2224.4	2224.7	1.8	62.0	2.2		
	2800	OTTA	29	2229	2229	00	4.8	2.6		
	10700	PENN	29	2230.4	2230.4	35.2	20.5	10.2		
	2000	TYKW	29	2230		30	1.3	0.6		
	9400	TYKW	29	2231		70	12.0	5.0		
	3750	TYKW	29	2231		70	5.0	2.0		
9	100	HIRA	45	0007.5	0008	1.5	1000.0D	200.0D		
	9400	TYKW	5	0112	0114	25	6.0	3.0		
	8800	PALE	20	0112.3	0113.8	16.9	9.9	5.9		
	3750	TYKW	5	0112	0114	25	4.0	1.0		
	2695	BOUL	3	0114	0115.5	3	3.0	1.0		
	1415	MANI	4	0146.5U	0150.5U	12.5U	14.1U	.9U		WX
	8800	PALE	4	0147.6	0149.3	26.2	199.3	59.8		
	9400	TYKW	45	0148	0149.3	10	148.0	45.0		
	9300	IRKU	3	0148	0149.5	13	132.0			
	8800	MANI	4	0148.5U	0149.5U	4.7U	63.0U	22.3U		WX
	4995	MANI	4	0148 U	0149.5U	7.6U	47.4U	13.6U		WX
	3750	TYKW	45	0148	0149.6	12	55.0	15.0		
	2930	VORO		0148	0150.5	77	42.0			
	2695	MANI	4	0148 U	0150 U	9 U	22.3U	7.8U		WX
	2695	PENT	4	0148	0150	4	32.0	16.0		
	2000	TYKW	45	0148	0148.9	12	23.0	5.0		
	1415	PALE	4	0149.3	0150.3	27.7	17.2	5.2		
	1000	TYKW	45	0152	0154	4	4.0	1.0		
	9400	TYKW	29	0158		100	20.0	7.0		
	3750	TYKW	29	0200		100	8.0	3.0		
	2000	TYKW	29	0200		70	3.0	1.0		
	100	HIRA	45	0255.5	0256.6	4	400.0	100.0		
	1000	TYKW	45	0257	0258.2	3	4.0	1.0		
	200	GORK	44	0300 E		600 D		10.0		
	100	GORK	44	0300		60		5.0		
	260	ONDR	44	0636	1352.5	514	120.0			
	221	ARST	44	0700	1052.2	240	9.0			
	100	GORK	44	0800		300		5.0		
	410	SGMR	44	0919 F	1043.3	899 D	27.2			
	245	SGMR	44	0919 F	1330.4	899 D	46.8			
	200	HIRA	44	1940 E	0048	830 D	80.0	15.0		
	1000	TYKW	45	0302	0304	3	23.0	2.0		
	606	MANI	40	0302.3	0303.9	2.4	62.0	6.7		
	650	GORK	2	0319	0319.3	.3	6.0	3.0		
	8800	MANI	4	0517.1U	0523.5U	12.9U	24.2U	5.6U		WX
	606	MANI	4	0518.8U	0520.7U	7 U	11.7U	2.7U		
	4995	MANI	2	0519.4U	0520.4U	7 U	5.7U	1.1U		WX
	2695	MANI	4	0519.5U	0520.9U	6 U	11.6U	1.9U		WX
	2695	ATHN	1	0519.7	0520.9	5.6	9.3	3.6		
	1415	MANI	2	0519.5U	0520.9U	6 U	5.2U	.9U		WX
	9400	TYKW	45	0520	0523.4	5	10.0	2.0		
	8800	ATHN	1	0520.2	0523.6	6.7	3.4	1.0		
	4995	ATHN	1	0520.1	0520.7	6.9	3.2	1.0		
	3750	TYKW	45	0520	0520.9	5	8.0	2.0		
	3100	CRIM	40	0520	0521	40	8.0	3.0		
	2000	TYKW	45	0520	0520.3	5	24.0	3.0		
	1415	ATHN	1	0520.1	0523.6	4.7	5.0	1.5		
	1000	TYKW	45	0520	0523.8	6	5.0	1.0		
	100	HIRA	45	0520	0520.6	2.5	1000.0D	500.0D		
	29	UPIC	45	0520	0522.5	4.5				
	3100	CRIM		0522	0524		4.0	1.0		
	200	HIRA	45	0523		1	180.0D	160.0D		
	100	HIRA	45	0523	0523.5	2	1000.0	200.0		
	9400	TYKW	5	0528	0528.9	3	10.0	2.0		
	8800	ATHN	3	0528.3	0528.9	2	10.3	6.0		
	3100	CRIM		0528	0529		5.0	2.0		
	9400	TYKW	45	0538.5	0541.6	4	12.0	4.0		
	8800	ATHN	3	0538.3	0539	4.4	10.3	6.0		
	3750	TYKW	45	0538	0541.6	5	3.0	1.0		
	1000	TYKW	45	0538	0541.1	4	72.0	5.0		
	3100	CRIM		0540	0542		2.0	1.0		
	950	GORK	46	0540.6	0541.1	1.6	63.0			
	950	GORK		0540.6	0541.6		68.0			
	2000	TYKW	5	0541	0541.7	1.5	2.0	1.0		
	3100	CRIM		0550	0553		4.0	1.0		
	100	HIRA	45	0620	0620.3	1.5	850.0	100.0		
	100	HIRA	45	0621.7	0622.1	1	70.0	20.0		
	200	GORK	6	0638.4	0639.3	2.7	120.0			
	200	HIRA	45	0639	0639.4	2	130.0	60.0		
	6100	KISV	3	0708	0715.1	11	7.0			

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9	9500	BERL	22	0712	0715	23	8.3			
	9400	TYKW	5	0713	0715	30	8.0	3.0		
	9100	GORK	1	0713.5	0715.5	2.8	6.7	3.3		
	3750	TYKW	5	0713	0715	10	2.0	1.0		
	2695	MANI	2	0713.4U	0714.3U	1.3U	7.8U	1.0U		
	1415	MANI	1	0713.8U	0714.3U	1.4U	2.8U	.5U		
	606	MANI	4	0713.7U	0714.2U	1.1U	13.3U	3.2U		
	6100	KISV	40	0722.5	0727.2	8	3.0			
	550	KIEV	24	0753.5	0819.5	38	29.0			
	3100	CRIM	45	0822	0826	9	4.0	1.0		
	3100	CRIM		0822	0827		4.0	1.0		
	9100	GORK	22	0824	0827	11	9.5	4.7		
	950	GORK	1	0824.3	0824.3	.3	4.4	2.2		
	536	ONDR	45	0824	0827	6	50.0			
	8800	ATHN	2	0826.6	0828.6	3.6	10.3	3.1		
	4995	ATHN	1	0826.8	0828.7	2.7	5.3	1.6		
	2695	ATHN	1	0826.9	0828.7	2.5	1.9	.6		
	930	BORD	41	0826	0828.6	3	35.0	2.0		
	808	ONDR	45	0826	0826	1.5	70.0			
	950	GORK	4	0828.4	0828.7	.6	18.0	10.0		
	550	KIEV	6	0832.2	0836	6.5	27.0			
	1470	BERL	3	0842.5	0842.9	.8	5.6	1.7		
	536	ONDR	45	0910	0919	10	145.0			
	510	POTS	40	0917.8	0918.5U	2.7	140.0	7.0		
	3000	BERL	1	0918.4	0918.7	1.1	2.5			
	2695	MANI	1	0918.4U	0918.8U	.9U	4.9U	1.0U		
	1470	BERL	3	0918.3	0918.7	.7	11.0	3.3		
	1415	MANI	1	0918.4U	0918.8U	1 U	9.9U	2.4U		
	950	GORK	3	0918.8	0919	.5	9.0	4.0		
	930	BORD	45	0918	0918.8	2	9.0	2.0		
	650	GORK	1	0918.6	0918.9	.7	2.6	1.3		
	606	MANI	8	0918.4U	0918.7U	.9U	34.4U	5.3U		
	100	GORK	6	0955.8	0956	.5	40.0	20.0		
	100	GORK	6	1017.2	1017.3	1	35.0	15.0		
	100	GORK	41	1045.1	1045.6	1.6	40.0			
	100	GORK		1045.1	1046.3		40.0			
	113	POTS	45	1105.9	1106.1	.4	600.0	150.0		
	100	GORK	6	1107.2	1108.5	1.6	90.0			
	100	GORK	6	1113.7	1113.8	.3	40.0	20.0		
	6100	KISV	3	1134.2	1136	6	36.0			
	15400	SGMR	3	1135.5	1136	1.6	42.2	12.7		
	10500	BERN	3	1135.3	1136	5	49.0			
	9500	BERL	45	1135	1136	12	41.0	14.0		
	9240	ARCE	3	1135.8	1136.3	3.6				
	8800	SGMR	45	1135.1	1136.1	12.4	54.2	16.3		
	8800	SGMR	45		1142.6		29.4			
	8800	ATHN	46	1135.4	1136.2	12.8	49.6	9.9		
	4995	SGMR	45	1135.1	1136.1	13.1	54.1	16.2		
	4995	SGMR	45		1142.9		22.1			
	4995	ATHN	45	1135.5	1136.2	17.6	47.3	9.5		
	3100	CRIM	45	1135	1136	17	46.0	15.0		
	3100	CRIM		1135	1142		50.0	17.0		
	3000	BERL	45	1135	1143	20	115.0	25.0		
	2800	OTTA	45	1135.8	1143	17	55.0	12.2		
	2800	OTTA		1135.8	1136.2	6.2	45.0			
	2800	OTTA		1142	1143	10.8	55.0			
	2700	PENN	3	1135.4	1136.2	4.6	32.3	12.3		
	2695	SGMR	45	1135.6	1136.2	14.4	50.2	18.3		
	2695	SGMR	45		1142.8		61.1			
	2695	ATHN	45	1135.5	1142.9	16.8	58.2	11.6		
	1470	BERL	45	1135.5	1143.2	26	35.0	12.0		
	1415	SGMR	45	1135.6	1136.2	17.7	22.9	9.8		
	1415	SGMR	45		1143.1		32.6			
	1415	ATHN	45	1135.5	1143	16.8	29.0	5.8		
	960	PENN	45	1135.8	1136	1	166.0	50.5		
	950	GORK		1135.7E	1135.8U	2.1D				
	930	BORD	45	1135	1136	13	322.0	12.0		
	808	ONDR	45	1135.5	1135.5	1	165.0			
	650	GORK	41	1135.6	1135.9	7.5	200.0D			
	650	GORK		1135.6	1142		200.0D			
	606	SGMR	47	1135.4	1135.8	8.9	219.0	107.0		
	606	SGMR	47		1141.9		3560.0			
	536	ONDR	45	1135	1136	2	90.0			
	100	GORK	6	1135.2	1135.8	1.3	20.0	10.0		
	960	PENN	29	1136.8	1136.8	17	4.2	2.1		
	10500	BERN	3	1140.9	1142.6	7	25.0			
	2700	PENN	29	1140	1140	20.8	4.5	2.2		
	2700	PENN	28	1140.8	1140.9	1.2	4.5	3.9		
	6100	KISV	3	1141	1142.3	7	27.0			
	808	ONDR	45	1141.5	1142.5	7	115.0			
	536	ONDR	45	1141.5	1142	2.5	95.0			
	9240	ARCE	3	1142	1143.1	5.5				
	2700	PENN	3	1142	1143	7.2	40.4	13.1		
	960	PENN	45	1142	1142.6	4.8	44.1	10.9		
	950	GORK	3	1145	1145.7	6.7	78.0	22.0		
	100	GORK	41	1156	1156.8	4.2	25.0			
	100	GORK		1156	1159.8		800.0			
	113	POTS	45	1159	1159.4	1.6	600.0	60.0		
	29	UPIC	45	1159		2.5				
	18	MCMA	6	1159	1200	3			1	

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9	650	GORK	3	1201.9	1202	1	8.6	4.3		
	9240	ARCE	21	1214.6	1227.8	31				
	15400	SGMR	3	1221.7	1222	2.6	27.5	8.2		
	10500	BERN	3	1221.5	1221.9	2	28.0			
	9500	BERL	3	1221.5	1222	2.5	25.0	8.2		
	9400	HUAN	1	1221.6	1222	1.5	37.2	15.2		
	9240	ARCE	3	1221.8	1222.3	2.8				
	8800	SGMR	3	1221.6	1222	2.2	30.2	9.1		
	8800	ATHN	3	1221.7	1222	8.8	31.9	9.6		
	4995	SGMR	3	1221.5	1222.1	2.7	13.5	4.1		
	4995	ATHN	46	1221.6	1222	10	12.6	2.5		
	3100	CRIM	1	1221	1222	3	5.0	2.0		
	3000	BERL	3	1221.5	1222	3.5	8.1	2.5		
	2800	OTTA	1	1221.8	1222	3	5.6	2.0		
	2700	PENN	1	1221.5	1222.2	4	3.6	1.8		
	2695	SGMR	1	1221.7	1222.3	3.4	6.1	1.8		
	2695	ATHN	1	1221.6	1222.5	3.9	3.6	1.1		
	1470	BERL	1	1221.5	1222	2	2.6	0.7		
	1415	SGMR	1	1221	1222.1	3.2	3.1	.5		
	960	PENN	45	1221.5	1221.7	.8	15.3	1.3		
	7000	SAOP	3	1222	1224.6	1.3	33.1	16.5		
	7000	SAOP	29	1225.2		3.7	5.8			
	245	BOUL	42	1257	1334	78			2	
	1470	BERL	1	1333.5	1333.8	.5	4.0			
	510	POTS	40	1334.5	1335.1U	1 U	30.0	2.0		
	234	POTS	45	1334.7	1335.4	.8	180.0	15.0		
	960	PENN	45	1352.7	1356.6	10.7	56.6	8.1		
	536	ONDR	45	1352	1356	8	95.0			
	510	POTS	40	1352	1356 U	6 U	150.0	5.0		
	410	SGMR	6	1352.9	1353.1	5.5	82.8	24.8		
	10700	PENN	3	1353.2	1356.7	6.4	60.0	11.3		
	10500	BERN	4	1354.1	1356.4	5	60.0			
	808	ONDR	45	1354	1356.5	6	125.0			
	15400	SGMR	4	1355.6	1356.8	5.1	61.6	18.5		
	9500	BERL	4	1355	1356.4	4	52.0	18.0		
	9400	HUAN	4	1355.8	1356.7	2.8	69.8	24.3		
	8800	SGMR	4	1355.6	1356.6	5.1	58.0	17.4		
	8800	ATHN	46	1355.7	1356.7	3.3	58.4	17.5		
	4995	BOUL	45	1355	1358.5	5.5	497.0	194.0		
	4995	SGMR	47	1355.8	1357.5	4	633.0	18.3		
	4995	ATHN	47	1355.5	1357.6	7	650.0	195.0		
	3000	BERL	4	1355	1357.5	5	174.0	31.0		
	2700	PENN	45	1355.6	1357.5	3.4	97.0	13.2		
	2695	SGMR	46	1355.7	1356.7	4.8	38.4	33.6		
	2695	SGMR	46		1357.6		112.0			
	2695	ATHN	46	1355.6	1357.6	3.9	109.2	32.8		
	1470	BERL	4	1355.5	1356.9	4.5	59.0	20.0		
	1415	SGMR	46	1355.7	1356.6	4.8	71.5	21.5		
	1415	SGMR	46		1357.6		38.2			
	1415	ATHN	46	1355.6	1356.7	3.7	61.5	18.5		
	606	SGMR	4	1355.8	1357.2	3.3	80.0	24.0		
	18	MCMA	6	1355	1358	5			2	
	9240	ARCE	4	1356	1356.8	4				
	2800	OTTA	3A	1356	1357	4	37.0	15.0		
	1420	BOUL	45	1356	1357	9.5	47.0	16.0		
	113	POTS	45	1356	1357	2.3	35000.0	1000.0		
	29	UPIC	45	1356	1357	3				
	2800	OTTA	8	1357.8	1357.8		143.0D			
	2695	BOUL	45	1357	1359	6.5	56.0	22.0		
	2700	PENN	29	1359	1359	22	3.6	1.8		
	7000	SAOP	45	1400.8	1401.4	2.4	72.1	41.1		
	15400	SGMR	3	1446.9	1447.2	1.6	33.5	10.1		
	10700	PENN	45	1446.7	1447.4	5.2	47.8	6.1		
	10500	BERN	4	1446.8	1447.2	4	50.0			
	8800	SGMR	45	1446.9	1447.2	3.7	48.7	14.6		
	8800	SGMR	45		1448		21.8			
	8800	ATHN	45	1446.8	1447.4	7.7	51.3	15.4		
	1415	SGMR	45	1446.8	1447.2	3.4	9.1	1.8		
	1415	SGMR	45		1448		9.1			
	234	POTS	45	1447.2	1447.2	.2	175.0	30.0		
	9500	BERL	4	1447	1447.2	3	39.0	9.5		
	9400	HUAN	4	1447	1447.4	3.2	60.5	14.0		
	9240	ARCE	4	1447.3	1447.5	3.5				
	7000	SAOP	45	1447.1	1447.4	2.5	38.1	19.0		
	4995	BOUL	45	1447.5	1448	4	13.0	3.0		
	4995	SGMR	45	1447.1	1447.2	3.6	9.4	1.9		
	4995	SGMR	45		1448		7.8			
	4995	ATHN	45	1447	1447.3	3.6	8.4	2.5		
	3000	BERL	4	1447	1448	3	6.2	1.9		
	2800	OTTA	45	1447	1448	4	5.4	1.8		
	2700	PENN	45	1447	1448.2	3.3	3.6	1.3		
	2695	SGMR	45	1447.1	1447.5	2.4	5.1	1.2		
	2695	SGMR	45		1448.3		5.8			
	2695	ATHN	45	1447	1447.4	2.6	5.5	1.7		
	1470	BERL	4	1447	1448	4	8.5	2.3		
	1420	BOUL	45	1447.5	1448.5	7.5	6.0	2.0		
	1415	ATHN	45	1447	1448	4.1	11.6	3.5		
	960	PENN	45	1447	1448.1	2.8	5.0	0.9		
	930	BORD	45	1447	1448	3	10.0	2.0		
	606	SGMR	45	1447.2	1448	1.3	53.9	16.2		

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JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
9	606	SGMR	45		1448.3		35.9			
	510	POTS	45	1447.1	1447.2	.1	100.0	25.0		
	410	SGMR	6	1447.2	1447.3	1.4	109.0	32.8		
	245	SGMR	6	1447.2	1447.3	1.4	144.0	43.3		
	113	POTS	45	1447.3	1447.4	.3	200.0	40.0		
	2695	BOUL	45	1448.5	1449.5	4	5.0	2.0		
	7000	SAOP	29	1449.6		2.5	4.4			
	7000	SAOP	3	1547.7	1548.5	1	20.5	16.6		
	245	SGMR	48	1547.9	1548.4	2.1	530.0	159.0		
	10700	PENN	45	1548.4	1548.8	2	16.0	4.8		
	10500	BERN	4	1548.1	1548.7	3	22.0			
	9400	HUAN	1	1548.3	1548.7	2	24.8	7.2		
	9240	ARCE	4	1548.5	1549	3				
	8800	SGMR	4	1548.7	1548.7	3.8	21.8	6.6		
	8800	ATHN	4	1548.5	1548.8	1.8	17.7	5.3		
	7000	SAOP	29	1548.7		2.9	4.4			
	4995	BOUL	45	1548	1549	2.5	13.0	4.0		
	4995	SGMR	45	1548.3	1548.7	3.5	9.8	3.0		
	4995	SGMR	45		1549.3		9.0			
	4995	ATHN	2	1548.3	1548.8	2.2	7.4	2.2		
	2800	OTTA	45	1548.5	1549	4	10.6	2.7		
	2700	PENN	45	1548.2	1548.8	4.4	6.3	1.6		
	2695	SGMR	45	1548.4	1548.7	3.9	11.2	3.4		
	2695	SGMR	45		1549.4		9.9			
	2695	ATHN	4	1548.5	1548.8	1.8	12.7	3.8		
	1415	SGMR	45	1548.3	1548.7	3.6	14.4	4.3		
	1415	SGMR	45		1549.3		14.4			
	1415	ATHN	4	1548.5	1549.5	3	13.9	4.2		
	930	RORD	45	1548	1548.7	5	23.0	2.0		
	606	SGMR	4	1548.2	1548.7	1.4	14.3	4.3		
	410	SGMR	7	1548.2	1548.7	3.4	425.0	122.0		
	2695	BOUL	45	1549.5	1550	5.5	12.0	4.0		
	1420	BOUL	45	1549	1550	6.5	9.0	3.0		
	18	WCMA	41	1718	1719	2			1	
	15400	SGMR	4	1730.4	1732.6	10.4	34.6	10.4		
	10700	PENN	45	1730.4	1732.7	7.6	36.5	14.5		
	9400	HUAN	41	1730.4	1731	9	46.5	15.7		
	9400	HUAN		1730.4	1732.7		38.8			
	9400	HUAN		1730.4	1734.5		40.3			
	9240	ARCE	45	1730.4	1734.8	9.2				
	9240	ARCE		1730.4	1731.4	2.2				
	9240	ARCE		1732.6	1732.9	1.7				
	9240	ARCE		1734.3	1734.8	5.3				
	8800	PALE	45	1730.3	1731.1	19.8	43.9	14.4		
	8800	PALE	45		1732.5		34.4			
	8800	PALE	45		1734.3		51.1			
	7000	SAOP	45	1730	1734.7	4.9	60.0	30.0		
	4995	BOUL	45	1730	1734.5	12	56.0	10.0		
	2800	OTTA	45	1730.2	1734.5	9.8	43.0	15.2		
	2700	PENN	45	1730.2	1734.6	8.8	27.3	10.0		
	1420	BOUL	45	1730	1731	15.5	13.0	4.0		
	1415	SGMR	45	1730.7	1731.2	15	19.0	5.7		
	1415	SGMR	45		1734.5		14.2			
	1415	PALE	45	1730.8	1731.3	12.2	18.6	5.8		
	1415	PALE	45		1734.4		9.7			
	960	PENN	45	1730.6	1731.3	4	8.5	2.5		
	606	SGMR	3	1730.8	1730.9	5.4	25.2	7.6		
	2695	BOUL	45	1731	1736	21	41.0	13.0		
	10700	PENN	29	1738	1738	9.4	8.1	4.1		
	2700	PENN	29	1739	1739	11	4.5	2.3		
	2800	OTTA	29	1740	1740	28	6.8	3.0		
	9400	HUAN	45	1851.4	1852.9	4.8	155.0	38.9		
	4995	BOUL	45	1851.5	1854	5.5	124.0	43.0		
	15400	SGMR	46	1852.3	1853.3	4.1	57.4	15.3		
	15400	SGMR	46		1853.9		76.5			
	10700	PENN	45	1852.4	1853.9	4.6	135.0	26.6		
	8800	SGMR	46	1852.5	1853.3	4.6	77.1	29.4		
	8800	SGMR	46		1853.9		146.8			
	8800	PALE	46	1852.5	1853.2	6.7	57.0	40.0		
	8800	PALE	46		1853.8		160.5			
	7000	SAOP	45	1852.9	1855.7	7.6	132.6	66.3		
	4995	SGMR	46	1852.4	1853.2	6.2	77.7	26.7		
	4995	SGMR	46		1854.2		133.6			
	2695	SGMR	46	1852.9	1853.3	9.7	75.0	24.1		
	2695	SGMR	46		1854.3		120.6			
	960	PENN	45	1852.6	1853.2	6	80.6	9.2		
	2800	OTTA	4	1853	1854.2	8	112.0	25.0		
	2700	PENN	45	1853	1854.3	7.6	71.3	14.4		
	1420	BOUL	45	1853	1855.5	11	219.0	47.0		
	1415	SGMR	47	1853	1853.7	9.4	344.0	223.2		
	1415	SGMR	47		1854.3		744.0			
	1415	PALE	47	1853	1854.1	10.4	650.0	49.3		
	606	SGMR	47	1853	1853.2	7.2	540.0	162.0		
	606	SGMR	47		1855.5		205.2			
	410	SGMR	6	1853.1	1856	3.9	75.2	15.0		
	2695	BOUL	45	1854	1856.5	12.5	65.0	22.0		
	2800	OTTA	21	2110		190	2.2	1.2		
	3750	TYKW	5	2337	2340	25	4.0	2.0		
	2695	PENT	20	2337	2340	15	2.4	1.2		
10	100	HIRA	27	0035	0115	90	35.0	10.0		

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JUL 1974	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
10	200	GORK	44	0300 E		600 D		5.0		
	100	GORK	44	0306 F		600 D		5.0		
	260	ONDR	44	0637	1445	513	85.0			
	221	ABST	44	0835.5	0935.8	145	5.0			
	245	SGMR	44	0919 F	2326.6	898 D	61.7			
	200	HIRA	44	1935 E	0155	830 D	60.0	14.0		
	2695	ATHN	4	0406.7	0408.9	3	10.0	3.0		
	8800	ATHN	4	0407.7	0408.8	2	15.9	4.8		
	4995	ATHN	2	0407.2	0408.8	2	9.1	2.9		
	2000	TYKW	45	0407	0409	5	4.0	1.0		
	8800	PALE	4	0408.3	0408.8	4	19.0	5.7		
	1415	PALE	1	0408.6	0408.8	1.4	2.8	.8		
	650	GORK	3	0408.8	0408.9	.4	58.0	29.0		
	1470	BERL	1	0652	0652.4	.7	2.6			
	1470	BERL	1	0705.5	0705.8	.5	2.0			
	1470	BERL	1	0738.2	0738.5	.8	2.3			
	100	GORK	6	0810	0810.7	1.2	40.0D			
	100	GORK	6	0821.2	0821.6	.7	40.0D			
	1470	BERL	1	0834.3	0834.5	.7	2.3			
	3000	BERL	2	0859.5	0900.5	2	5.1			
	2695	MANI	1	0900	0900.8	1.4	2.8	.9		
	1470	BERL	1	0900	0900.5	1	1.6			
	1415	MANI	1	0900	0900.8	1.4	1.4	.5		
	808	ONDR	45	0900	0900	1	100.0			
	650	GORK	3	0900.2	0900.4	.6	97.0	48.0		
	606	MANI	8	0900.2	0900.3	.6	59.0	5.3		
	221	ABST	48	0922	0922.2	1	33.0	12.0		
	221	ABST	48	0935.2	0935.8	1.2	33.0	12.0		
	100	GORK	6	1136.4	1136.8	.6	40.0	20.0		
	100	GORK	6	1143.1	1143.4	.4	40.0	20.0		
	3000	BERL	1	1321.5	1322	1.5	3.2			
	2800	OTTA	1	1321.8	1322	1	1.8	0.9		
	1470	BERL	1	1321.5	1322	1.5	1.3			
	9500	BERL	1	1322	1322.1	.5	4.1			
	808	ONDR	5	1322	1322	.5	60.0			
	4995	BOUL	3	1417.5	1422.5	15	9.0	4.0		
	9240	ARCE	20	1522	1627.4	133				
	2800	OTTA	21	1606	1613	65	1.0	0.5		
	2800	OTTA	1	1607.5	1609	2.5	1.2	0.6		
11	200	GORK	44	0303 E		600 D		5.0		
	100	GORK	44	0306		600 D		5.0		
	260	ONDR	44	0640	1121.5	350	45.0			
	410	SGMR	44	0920 E	1502	897 D	6.1			
	245	SGMR	44	0920 E	1858.4	897 D	29.0			
	260	ONDR	44	1230	1450	160	50.0			
	188	KIEV	44	1335 E	1630	225 D	308.0	53.0U		
	100	GORK	6	0435.4	0435.6	.5	50.0	25.0		
	100	GORK	6	0443	0443.1	.4	25.0	10.0		
	100	GORK	41	0634.8	0635	1.2	25.0			
	100	GORK		0634.8	0635.8		25.0			
	100	GORK	41	0838.8	0838.9	3	30.0			
	100	GORK		0838.8	0841.2		50.0			
	1470	BERL	1	0913.8	0914	.4	1.7			
	100	GORK	6	0919.2	0919.3	.5	30.0			
	221	ABST	48	0925	0925.8	1.5	31.0	10.0		
	100	GORK	41	0925.7	0927	3	40.0			
	100	GORK		0925.7	0928.4		30.0			
	200	GORK	6	0942.4	0942.8	.8	110.0	55.0		
	9240	ARCE	20	1052.8	1203.8	115				
	228	HARS	5	1303	1303.5	1.5	600.0	150.0		
	29	UPIC	5	1444.5	1444.5	.5				
	29	UPIC	45	1507.5	1508	8				
12	100	GORK	44	0312		588		5.0		
	200	GORK	44	0315 F		420		10.0		
	260	ONDR	44	0636	1214.5	514	105.0			
	188	KIEV	44	0840 E		380 D	108.0U	U		
	245	SGMR	44	0921 E	1918.7	895 D	1228.0			
	1470	BERL	1	0733.7	0734	.5	2.0			
	1470	BERL	2	0735.5	0736.4	1	2.6			
	221	ABST	48	0744.8	0745.2	1.2	15.0	8.0		
	200	HIRA	45	0754	0754.6	1	100.0	60.0		
	207	IZMI	6	1018.8	1019	.7	190.0	65.0		
	100	GORK	41	1020.4	1021 U	12.7	40.0D			
	100	GORK		1020.4	1026 U		40.0D			
	100	GORK		1020.4	1030.6U		40.0D			
	207	IZMI	6	1022.5	1022.5	.5	320.0	140.0		
	207	IZMI	6	1132	1132.8	.8	210.0	70.0		
	234	POTS	40	1211	1211.2	2.4	200.0	6.0		
	228	HARS	5	1211.2	1212.5	2.5	190.0	45.0		
	1420	BOUL	3	1521.5	1523	3.5	1.0			
	2800	OTTA	1	1522.8	1523	1	1.0	0.5		
	18	MCMA	42	1614	1618	12			2	
	18	MCMA	42	2022	2023	3			1	
	18	MCMA	42	2028	2033	6			1	
	18	MCMA	42	2042	2043	12			1	
	1420	BOUL	8	2222.5	2223	1	12.0	4.0	1	
	18	MCMA	6	2250	2251	4			1	
13	18	MCMA	6	0001	0002	2			1	

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JUL 074	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	200	GORK	44	0306 E		324		5.0		
	100	GORK	44	0306		414		5.0		
	260	ONDR	44	0640	1507	510	65.0			
	221	ABST	44	0700	1007.5	240	5.0			
	29	UPIC	45	0915	0915.5	1				
	245	SGMR	44	0922 E	1904	894 D	310.6			
	188	KIEV	44	1000 F		300 D	120.0	17.0		
	221	ABST	6	1006.8	1007.5	.8	24.0			
	410	SGMR	43	1805	2130.5	371 D	120.0			
	200	HIRA	44	1940 E	0128	830 D	180.0	50.0		
	10700	PENN	8	1926.7	1926.8	.2	29.4			
14	200	GORK	44	0200 F		420		30.0		
	100	GORK	44	0300 F		536 D		10.0		
	234	POTS	45	0650.6	0651.1	1.1	350.0	20.0		
	260	ONDR	44	0656	1225.5	466	100.0			
	221	ABST	44	0700	1003	240	13.0			
	207	IZMI	43	0700		300	90.0			
	188	KIEV	44	0700 E		630 D	386.0	25.0		
	200	GORK	6	0714.9	0715.5	1.3	250.0D			
	410	SGMR	44	0922 F	1817.5	893 D	90.7			
	245	SGMR	44	0922 F	1244.4	893 D	251.1			
	200	GORK	6	0930.7	0930.8	.6	20.0			
	100	GORK	6	0930.7	0930.8	.6	20.0			
	234	POTS	45	0956	0956.5	.6	250.0	5.0		
	221	ABST	49	1000	1004.2	7	28.0	9.0		
	221	ABST	48	1018.5	1019.2	1.5	28.0	9.0		
	234	POTS	41	1226.5	1241.4	25	1250.0	2.0		
	228	HARS	45	1241.2	1241.5	2	550.0	140.0		
	606	SGMR	43	1711	1416.5	.3	250.0	30.0		
	200	HIRA	44	1940 F	1848.4	229	11.0			
	7000	SAOP	32	1506	2114	585 D	66.0	23.0		
	7000	SAOP	1	1506		59	9.0			
	4995	BOUL	8	1655		1.5	14.4			
	7000	SAOP	20	1659.2	1656	1.5	10.0	3.0		
	10700	PENN	3	2125.8	2125.9	105.3	9.0			
	10700	PENN	3	2150.9	2151	1.8	11.2	1.7		
	10700	PENN	3	2155.2	2155.6	1	18.8	4.5		
						1.8	15.0	2.5		
15	200	GORK	44	0300 F		135		5.0		
	228	HARS	45	0414.2	0414.5	1.5	150.0	50.0		
	260	ONDR	44	0640	1049.5	270	100.0			
	510	POTS	45	0720.5	0720.7U	3 U	100.0	17.0		
	188	KIEV	44	0720 E		310	71.0	10.0		
	234	POTS	45	0734	0734	.1	120.0	30.0		
	234	POTS	40	0812.3	0813	.7	150.0	3.0		
	221	ABST	44	0812.2	0813.5	80	7.0			
	207	IZMI	41	0813	0818	39.3	440.0			
	200	GORK	44	0815		285		5.0		
	221	ABST	48	0843	0843.5	1	36.0	12.0		
	410	SGMR	44	0923 E	2213	892 D	37.4			
	245	SGMR	44	0923 F	2027	892 D	277.0			
	100	GORK	6	1029.7	1030	.6	70.0D			
	260	ONDR	44	1110	1443.5	240	70.0			
	315	DWIN	43	1430	1530	87 D		6.0		
	9240	ARCE	8	1404.8	1404.9	1				
	18	WCMA	6	1515	1517	3				
16	2930	VORO	41	0105	0107.5	12.5	15.0		1	
	3750	TYKW	5	0215	0221	35	2.0	1.0		
	200	GORK	44	0309 E		531 D		25.0		
	100	GORK	44	0309 E		531 D		15.0		
	3750	TYKW	5	0405	0420	50	2.0	1.0		
	200	HIRA	43	0405	0613	320 D	50.0	20.0		
	100	HIRA	43	0420	0612	305 D	20.0	10.0		
	536	ONDR	41	0640	0758	510	65.0			
	260	ONDR	44	0640	1104	510	100.0			
	221	ABST	44	0700	1046.8	240	7.0			
	188	KIEV	44	0700 E	1632	620 D	316.0	36.0		
	315	DWIN	44	0757	1235	508 D		15.0		
	200	GORK	6	0820.1	0820.4	.8	150.0D			
	410	SGMR	44	0924 F	1345.8	890 D	23.8			
	245	SGMR	44	0924 E	1829.8	890 D	60.1			
	3100	CRIM	20	0753	0755	45	1.0	0.5		
	3100	CRIM	24	0903	0917		4.0			
	234	POTS	40	1016.6	1017.7	1.2	120.0	2.0		
	234	POTS	45	1047.2	1047.2	.2	200.0	35.0		
	234	POTS	45	1059.1	1059.1	.1	120.0	24.0		
	2800	OTTA	20	1430 F	1520	130 D	1.6			
	1420	BOUL	8	2026.5	2027.5	1	5.0	2.0		
	100	HIRA	45	2255	2301.5	27	1000.0D	150.0D		
17	200	GORK	44	0300 F		600 D		10.0		
	100	GORK	44	0300		240		5.0		
	260	ONDR	44	0638	1104.5	502	40.0			
	221	ABST	44	0700	0727.8	240	7.0			
	188	KIEV	44	0700 E		600 D	106.0	19.0		
	100	GORK	44	0700		600 D		8.0		
	29	UPIC	45	0913.5	0914	2.5				

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	410	SGMR	44	0925 E	2219.9	888 D	20.1			
	245	SGMR	44	0925 E	1907	888 D	43.5			
	2800	OTTA	20	1400	1430	105	2.2	1.1		
	315	DWIN	41	1405	1408.4	7.5	280.0			
	18	MCMA	6	1515	1517	3			1	
	2695	BOUL	45	2122	2125	6	7.0	3.0		
	2695	BOUL	45	2122	2125.5	6	7.0	3.0		
18	2695	BOUL	45	0116	0117.5	2.5	6.0	2.0		
	200	GORK	44	0600		60		5.0		
	188	KIEV	44	0635 E		480 D	50.0	20.0		
	260	ONDR	41	0638	0645	262	40.0			
	245	SGMR	43	1532.3	2103.3	391.7	19.6			
	410	SGMR	43	1536.8	1542.3	387.4	25.0			
	200	HIRA	27	1940 F	2110.5	137 D	50.0	34.0		
	100	HIRA	43	2054	2141	220	60.0	30.0		
	9240	ARCE	23	1328.1	1331.3	6				
	9240	ARCE	8	1328.7	1328.8	.8				
	7000	SAOP	1	1621.9		1.8	11.6			
	7000	SAOP	1	1638.8		.9	5.2			
	2800	OTTA	24	1855	1902	7	1.0	0.5		
	1415	PALE	4	1858.5	1901.5	10.1	17.9	5.4		
	1420	BOUL	45	1859	1901.5	4.5	9.0	3.0		
	2800	OTTA	24	1902		420 D	1.0			
	2800	OTTA	22	1945	2245	295	4.0	2.8		
	245	SGMR	6	2001.9	2015.5	33.5	6.2	1.9		
	1415	SGMR	22	2002.1	2015.7	24.7	3.2	1.9		
	606	SGMR	22	2002.1	2010	33.9	10.4	6.2		
	2695	SGMR	20	2003	2015.5	18.1	2.2	1.3		
	410	SGMR	6	2003.3	2010.1	32.1	7.0	1.4		
19	2695	BOUL	8	0129.5	0130	1.5	5.0	2.0		
	100	GORK	44	0300 E		500 D		10.0		
	260	ONDR	41	0636	1308	514	20.0			
	960	PENN	45	2208.5	2209.3	1	11.2	0.8		
	2700	PENN	8	2209.2	2209.3	.2	1.7			
20	2000	TYKW	5	0208	0210	25	3.0	1.0		
	3750	TYKW	5	0209	0210	3	2.0	1.0		
	260	ONDR	45	0814	0844	63	40.0			
	260	ONDR	45	0953.5	1011	23	25.0			
	9240	ARCE	24	1027		85				
	2800	OTTA	1	1051.5	1053	2.5	1.0	0.5		
	18	MCMA	6	1134	1136	3			1	
	2800	OTTA	1	1625.5	1625.8	1	1.0	0.5		
	7000	SAOP	1	1716.5		.6	8.4			
	2700	PENN	1	1716.8	1717.3	1.4	2.6	1.2		
	2695	SGMR	1	1716.8	1717.3	1.2	2.6	.8		
	10700	PENN	1	1717	1717.3	1.2	3.7	1.2		
	8800	SGMR	1	1717	1717.1	.5	5.0	1.5		
	4995	SGMR	1	1717	1717.3	.7	4.0	1.2		
	2800	OTTA	2	1717	1717.2	1	4.6	1.6		
	2695	BOUL	8	1717.5	1718.5	1.5	6.0	2.0		
	1415	SGMR	1	1717	1717.3	2.6	2.5	.8		
	245	SGMR	43	1717.6	1730	413.3D	18.7			
21	100	GORK	6	0705	0708	7.1	75.0D			
	950	GORK	1	0707.6	0708.4	1.9	4.3	2.0		
	650	GORK	1	0707.3	0708	1.5	8.0	4.0		
	29	UPIC	45	0740	0740	.5				
	260	ONDR	44	0840	1052.5	240	45.0			
	2800	OTTA	20	1410	1440	60	1.2	0.6		
	18	MCMA	6	1607	1608	2			1	
	7000	SAOP	1	1725.5		1	15.8			
	18	BOUL	6	1727	1729	4			1	
	15400	SGMR	3	1728.5	1728.7	.9	14.1	4.2		
	9240	ARCE	1	1728.9	1729.1	1				
	8800	SGMR	3	1728.6	1728.9	1	17.2	5.2		
	8800	PALE	3	1728.7	1728.9	.8	17.7	6.8		
	4995	SGMR	3	1728.7	1728.9	1.1	14.7	4.4		
	2800	OTTA	3	1728.5	1728.8	2	17.6	4.0		
	2700	PENN	3	1728.5	1728.9	1.6	14.0	3.5		
	2695	SGMR	3	1728.7	1728.9	1.4	16.6	5.0		
	1420	BOUL	8	1728	1729	2.5	12.0	5.0		
	1415	SGMR	3	1728.7	1728.9	1.4	16.3	4.9		
	1415	PALE	3	1728.7	1729	1.2	15.9	5.8		
	960	PENN	1	1728.6	1729	1.8	7.8	2.3		
	930	BORD	45	1728	1728.8	2	16.0	4.0		
	606	SGMR	1	1728.7	1729.3	1.3	6.2	1.9		
	245	SGMR	6	1728.7	1729.5	1.4	8.3	1.7		
	18	MCMA	6	1728	1730	4			2	
	2695	BOUL	8	1729	1730	2.5	15.0	6.0		
	18	MCMA	41	1821	1823	4			1	
	245	SGMR	43	1843.7	1953.1	326.3D	32.8			
22	100	GORK	44	0257 F		603 D		25.0		
	200	GORK	44	0402		538 D		5.0		
	188	KIEV	44	0700 F		360	50.0	18.0		
	260	ONDR	41	0710	1127.5	340	30.0			
	245	SGMR	44	0929 F	2332	880 D	125.6			

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	315	DWIN	27	1015	1135	180	20.0	10.0		
	113	POTS	45	1028.5U	1126.5U	116	70.0	15.0		
	200	HIRA	43	2247	0004	143	38.0	24.0		
	650	GORK	1	0723.8	0724.4	1.1	5.0	2.5		
	200	GORK	6	0723.2	0723.3	.3	60.0			
	100	GORK	6	0723.6	0724.3	1	65.0D			
	950	GORK	1	0724.2	0724.3	1.3	2.0	1.0		
	3100	CRIM	24	0900	1104		8.0			
	950	GORK	23	1040.8	1104.7	78.2	7.8	3.0		
	536	ONDR	45	1040	1102.5	107	65.0			
	1415	SGMR	22	1050.8	1102.8	32.3	14.0	4.2		
	650	GORK	23	1051.9	1118.5	81.4	10.0	3.5		
	410	SGMR	6	1051.2	1119.1	86.3	37.3	11.2		
	234	POTS	45	1052 U	1125 U	93	27.0	6.0		
	848	ONDR	45	1053	1103.5	44	80.0			
	606	SGMR	22	1053.5	1102.7	74.8	34.3	10.3		
	1470	BERL	46	1056.3	1102.8	26	14.0	3.4		
	950	GORK	3	1056.7	1057	1.5	10.8	5.4		
	550	KIEV	6	1057.8	1102.2	11	24.0			
	2800	OTTA	27	1058		132	2.2	1.6		
	2800	OTTA	24	1058	1104	6	2.2	1.1		
	510	POTS	45	1058 U	1119 U	50	7.0	1.0		
	3000	BERL	22	1059	1206	136	6.6			
	950	GORK	46	1059.2	1100.7	5.5	11.5			
	950	GORK		1059.2	1102.8		15.7			
	650	GORK	46	1100	1101.3	4.6	15.0			
	650	GORK		1100	1102.8		40.0			
	29	UPIC	45	1100		30.5				
	9500	BERL	20	1104.5	1131.8	81	7.1			
	2800	OTTA	24	1104		61	2.2			
	550	KIEV	24	1115.5	1120.5	60	8.0			
	2800	OTTA	26	1205	1310	65	-2.2	-1.1		
	2800	OTTA	20	1605	1638	155	1.6	0.8		
	18	MCMA	6	1655	1657	.2			1	
	2695	PENT	20	2250	2435	180 D	3.4			
	100	HIRA	27	2319	2355	64	90.0	20.0		
	1420	BOUL	8	2330	2331	3.5	2.0	1.0		
23	260	ONDR	41	0710	0725	500	45.0			
	2800	OTTA	20	1410	1500	90 D	1.6			
	2695	BOUL	3	1423	1425.5	5.5	5.0			
	9240	ARCE	22	1507.6	1518.4	60		2.0		
	2800	OTTA	20	1829	1844	60	1.6	0.9		
	2695	BOUL	3	2221.5	2222.5	2	3.0	1.0		
	4995	BOUL	3	2229	2231	3.5	20.0	6.0		
	9400	TYKW	5	2230	2231.6	3	8.0	3.0		
	8800	PALE	2	2230.6	2231.6	8.7	8.3	2.5		
	3750	TYKW	5	2230	2231.7	3	10.0	3.0		
	2695	PENT	23	2230	2450	205 D	5.0			
	2800	OTTA	1	2231	2232	2.5	2.6	1.3		
	9400	TYKW	29	2233		18	4.0	2.0		
	3750	TYKW	29	2233		15	2.0	1.0		
	2695	BOUL	3	2351	2352	1.5	4.0	1.0		
	2695	BOUL	45	2354	2355.5	6	65.0	20.0		
	2695	BOUL	45	2354	2356.5	6	65.0	20.0		
	2695	PENT	1	2541	2542	2	1.6	0.8		
24	3750	TYKW	5	0140	0141.7	15	3.0	1.0		
	260	ONDR	45	0739	0743	6	25.0			
	3000	BERL	1	0756.4	0756.7	.7	4.9	1.8		
	1470	BERL	2	0756.5	0756.8	1.5	4.3	1.0		
	536	ONDR	45	0757.5	0757.5	2	45.0			
	188	KIEV	6	0757.7	0758	1.2	210.0			
	260	ONDR	5	0758.5	0758.5	.5	30.0			
	536	ONDR	5	0806	0806	.5	35.0			
	2800	OTTA	20	1530	1640	120	1.4	0.7		
25	260	ONDR	41	0740	1509	465	20.0			
	550	KIEV	6	1336.6	1336.9	1	54.0			
	245	SGMR	43	1448.5	1538.7	187.5	26.0			
	1420	BOUL	8	1722	1723	1.5	13.0			
	18	BOUL	6	1743	1744	3		5.0		
	2695	BOUL	3	1926.5	1928.5	4	5.0	2.0	1	
	960	PENN	45	2019.5	2021.5	3.4	13.0	2.8		
	2700	PENN	1	2021.3	2021.8	.9	1.8	0.4		
	2695	PENT	24	2130	2515	225	5.2	2.5		
	2695	PENT	24	2515		40 D	5.2			
26	1420	BOUL	45	0112	0114	2.5	4.0	1.0		
	1420	BOUL	3	0123	0124	1.5	2.0	1.0		
	200	HIRA	45	0414	0414.4	1	180.0D	120.0D		
	260	ONDR	41	0547	0614	553	45.0			
	536	ONDR	45	0657	0705	13.5	40.0			
	188	KIEV	42	0925		36	24.0	13.0		
	188	KIEV	6	1013.5	1015	3.7	74.0			
	3100	CRIM	24	1025	1300		6.0			
	7000	SAOP	3	1155.3		1.8	7.8			
	7000	SAOP	3	1218.7		1.7	6.7			
	2700	PENN	8	1234.1	1234.2	.3	8.8			
	960	PENN	45	1234.1	1234.2	.5	11.4	1.0		

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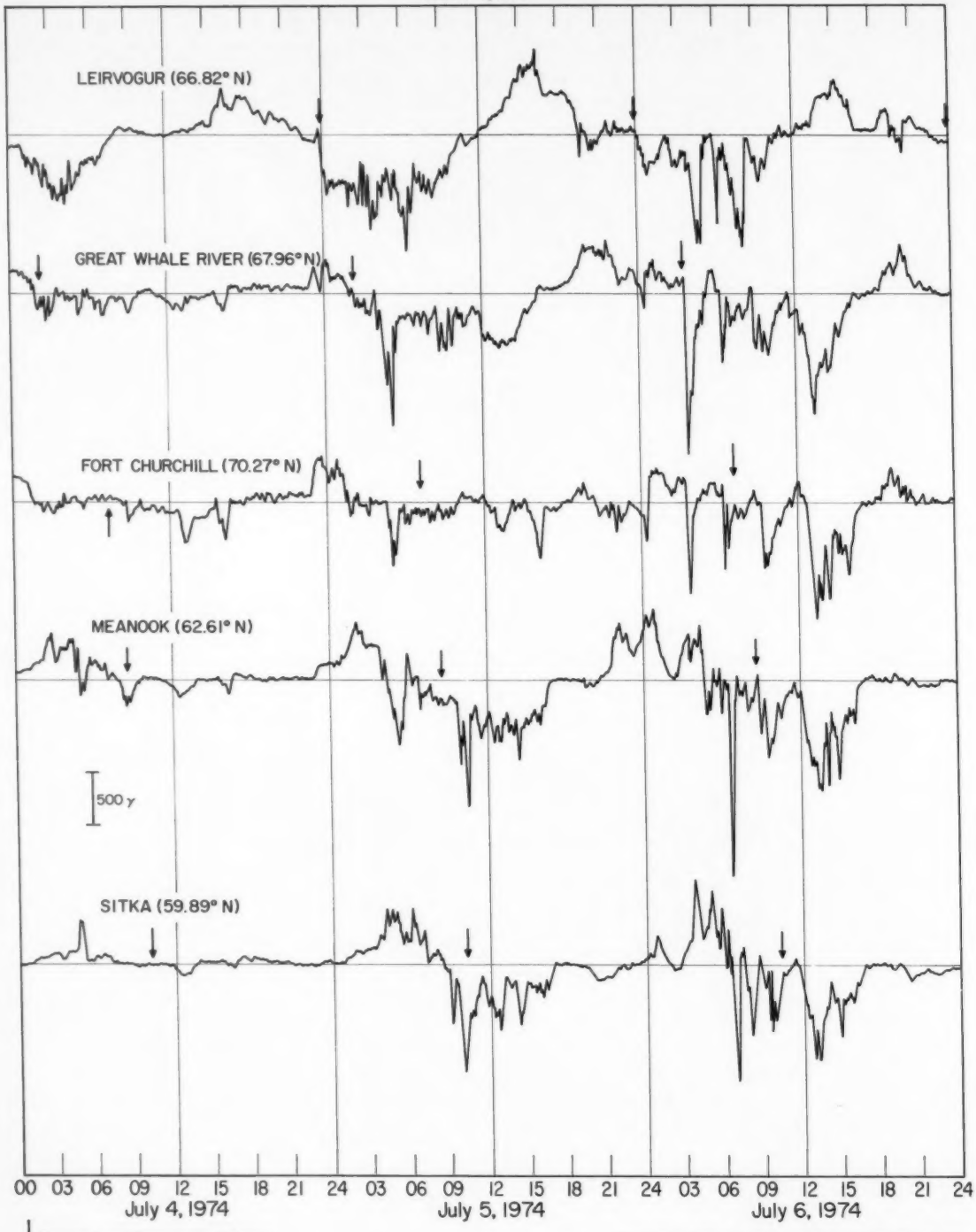
	188	KIEV	41	1302	1311.7	10.5	68.0			
	29	UPIC	45	1422	1422.5	1				
	18	MCMA	41	1953	1957	4				
	2800	OTTA	1	2124	2124.6	1.2	2.8	1.2	1	
	2695	BOUL	3	2124	2125	1.5	4.0	1.0		
	1420	BOUL	45	2226.5	2230	7.5	20.0	4.0		
	4995	BOUL	8	2227.5	2228.5	5	21.0	8.0		
	2800	OTTA	4	2227.5	2228.8	5	17.8	6.6		
	2700	PENN	45	2227.7	2228.8	4.4	15.3	3.0		
	2695	SGMR	4	2227.6	2228.8	3.1	23.6	7.1		
	2695	MANI	4	2227.7U	2228.8U	5.1U	19.0U	7.6U		PEAKING
	2000	TYKW	45	2227	2228.7	5	24.0	5.0		
	1415	MANI	40	2227.7U	2230.2U	5.4U	27.0U	5.4U		PEAKING
	1415	SGMR	4	2227.8	2230.2	4.7	24.2	7.3		
	1000	TYKW	45	2227	2230.2	4	19.0	3.0		
	960	PENN	45	2227.7	2230.2	4.4	13.6	1.7		
	606	MANI	40	2227.7	2230.4	5.4	87.0	13.3		
	606	SGMR	4	2227.6	2230.6	5.6	85.8	25.7		
	245	SGMR	7	2227.3	2229.3	11.5	273.7	82.1		
	200	HIRA	45	2227.5	2229 U	7	180.0D	100.0D		
	18	BOUL	6	2227	2229	3			1	
	9400	TYKW	5	2228	2230	6	4.0	2.0		
	4995	SGMR	4	2228.1	2228.9	2.8	19.2	5.7		
	3750	TYKW	45	2228	2228.7	5	16.0	4.0		
	2695	BOUL	45	2228	2229.5	5.5	19.0	7.0		
	410	SGMR	6	2228	2230.6	6.9	199.5	59.9		
	100	HIRA	45	2228	2229 U	5	1000.0D	200.0D		
	18	MCMA	6	2230	2231	3			1	
	2695	BOUL	45	2315.5	2316.5	4	50.0	18.0		
27	260	ONDR	44	0650	1203	542	35.0			
	188	KIEV	42	0700 E		540 D	165.0	16.0		
	100	HIRA	45	0804	0804.2	1	550.0	100.0		
	29	UPIC	45	0804	0804.5	1				
	536	ONDR	45	1112.5	1118	7.5	45.0			
	18	MCMA	6	1354	1355	4			1	
28	3100	CRIM	45	0639	0640	4	6.0	2.0		
	3100	CRIM		0639	0642		4.0			
	188	KIEV	44	0700 E		540 D	265.0	26.0		
	260	ONDR	44	0708	1111	470	40.0			
	245	SGMR	44	1052 E	1838.4	792 D	39.4			
	29	UPIC	45	0921.5	0923.5	2.5				
	207	IZMI	6	0947	0947.5	1	320.0	85.0		
	6100	KISV	20	1018	1037	39	2.0			
	18	MCMA	6	1643	1644	3			1	
	2695	BOUL	45	1707.5	1713.5	12.5	4.0	1.0		
	1420	BOUL	3	1708	1712.5	10	2.0	1.0		
	2800	OTTA	20	1709	1717.5	24	1.6	0.8		
29	200	HIRA	45	0042.5	0043	1	180.0D	90.0D		
	3100	CRIM	20	0602	0640	180	3.0	1.0		
	260	ONDR	44	0648	1312	384	45.0			
	234	POTS	45	0938.9	0939.4	.6	700.0	100.0		
	245	SGMR	6	1311.8	1312	1.4	104.0	31.1		
	29	UPIC	45	1312	1312.5	1				
	18	MCMA	6	1556	1557	2			1	
	29	UPIC	45	1702	1704	3				
	1420	BOUL	45	2232	2234.5	4	3.0	1.0		
	2800	OTTA	22	2236	2240	145	2.8	1.3		
30	260	ONDR	45	1330	1333	10	20.0			
	188	KIEV	41	1330.7	1840	11	604.0			
	2695	BOUL	45	1738	1740	3.5	70.0	21.0		
	2800	OTTA	45	2044.9	2045	10	2.0	1.0		
	9300	IRKU		2221	2228.9		987.0D			
	9300	IRKU	45	2221	2248	47	330.0			
31	3750	TYKW	45	0415	0422.4	45	6.0	2.0		
	2000	TYKW	45	0415	0420.6	15	8.0	2.0		
	1415	MANI	22	0418.5	0420.5	10.1	7.4	1.5		
	606	MANI	4	0418.5	0420.1	10.1	11.5	3.7		
	9400	TYKW	5	0419	0426	40	9.0	4.0		
	8800	MANI	1	0419.5	0422.7	8.3	5.6	1.9		
	4995	MANI	2	0419.5	0422.6	7.3	8.4	2.8		
	2695	MANI	4	0419.5	0423.7	9.7	14.8	4.1		
	1000	TYKW	45	0419	0420	8	9.0	3.0		
	6100	KISV		0916.3	0921	2.3	17.0			
	9500	BERL	1	0920	0920.8	12	6.0	2.5		
	8800	ATHN	3	0920.5	0921.5	1.7	26.5	8.0		
	4995	ATHN	3	0920.5	0921.4	1.2	10.6	3.2		
	3100	CRIM	3	0920	0921	20	14.0	5.0		
	3000	BERL	3	0920	0921.3	20	22.0	3.1		
	2695	ATHN	1	0920.4	0921.4	1.4	9.1	2.7		
	1470	BERL	46	0920	0923	15	8.8	3.5		
	1415	ATHN	1	0920.3	0921.4	1.4	5.5	1.7		
	930	BORD	40	0920	0925	10	11.0	2.0		
	536	ONDR	45	0920	0921.5	4.5	50.0			
	283	DWIN	43	1155		238 D		3.0		
	315	DWIN	43	1158		235 D		4.0		
	245	SGMR	6	1905.3	1906	1.2	45.9	13.8		3

70
Jul 74

H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

JULY 4-6, 1974

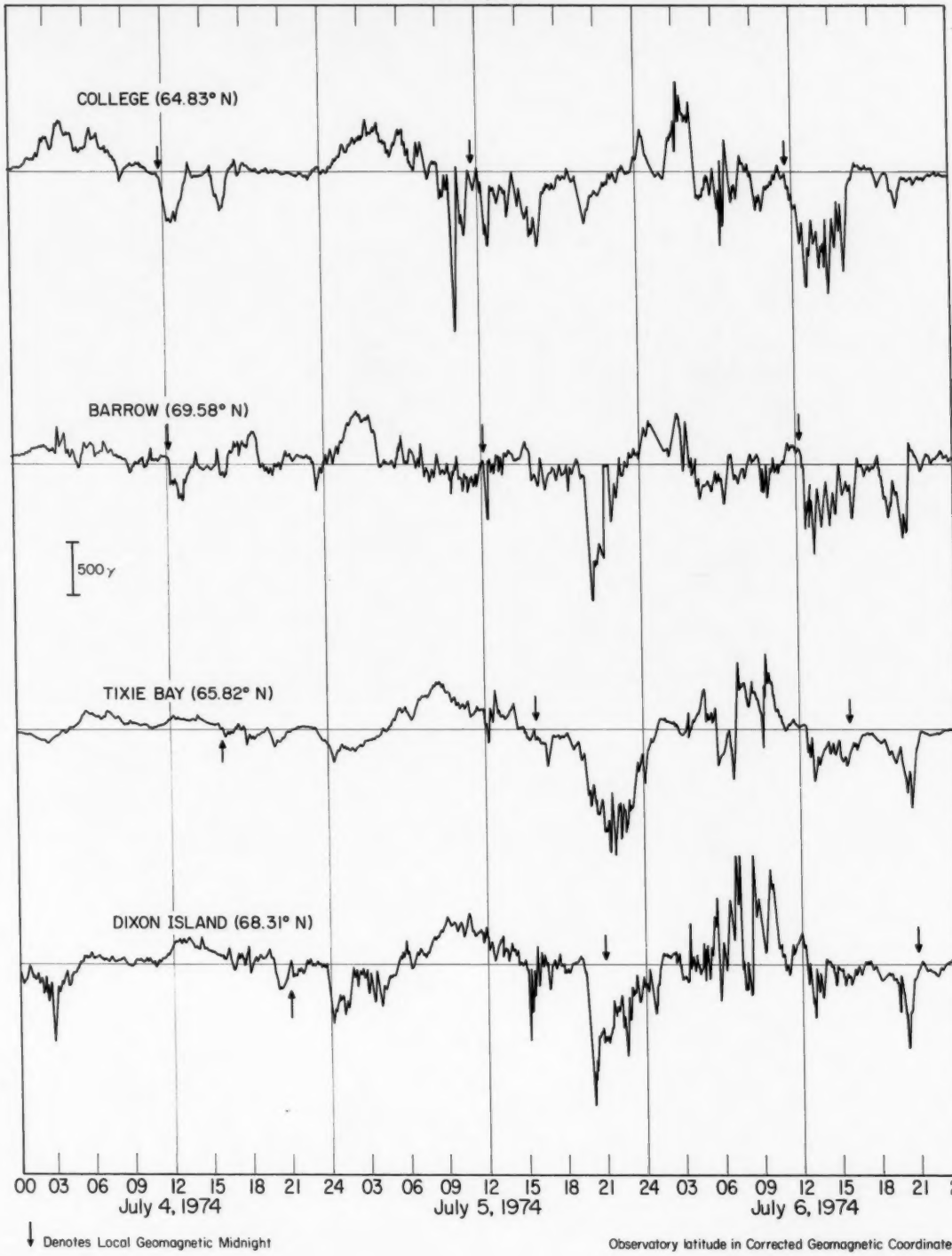


↓ Denotes Local Geomagnetic Midnight

Observatory latitude in Corrected Geomagnetic Coordinates.

H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

JULY 4-6, 1974

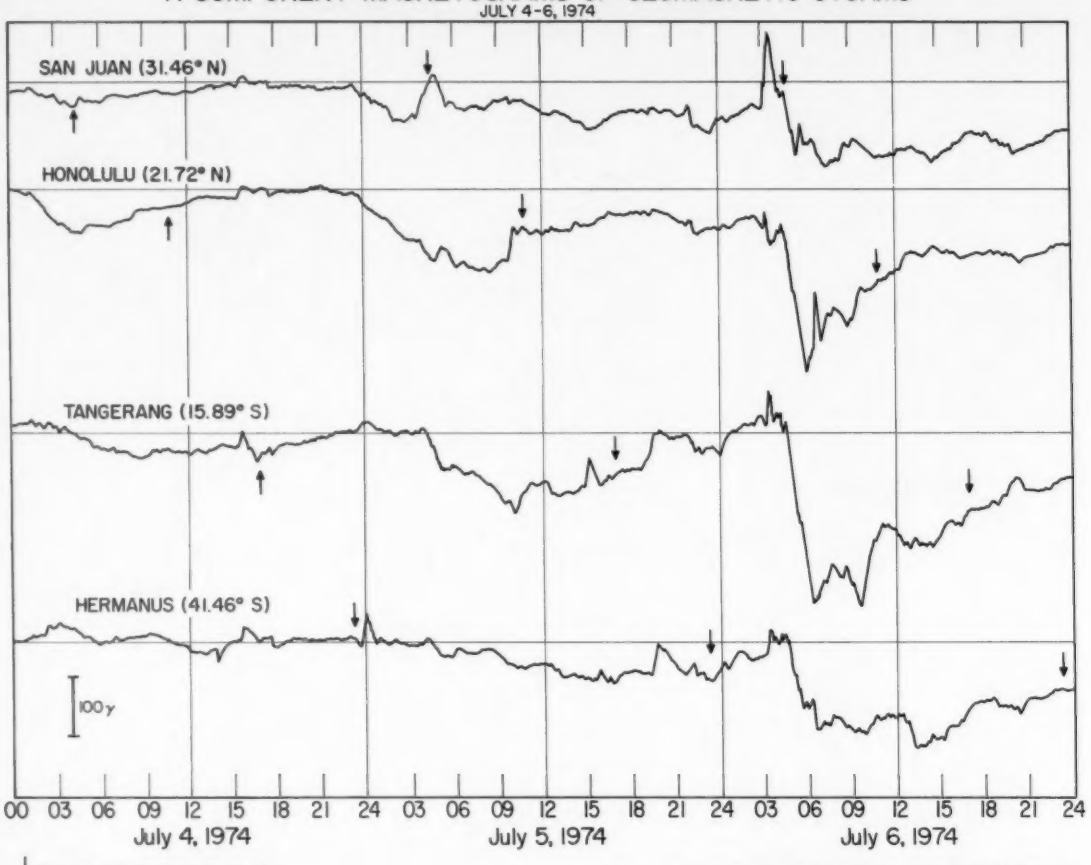


↓ Denotes Local Geomagnetic Midnight

Observatory latitude in Corrected Geomagnetic Coordinates.

H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

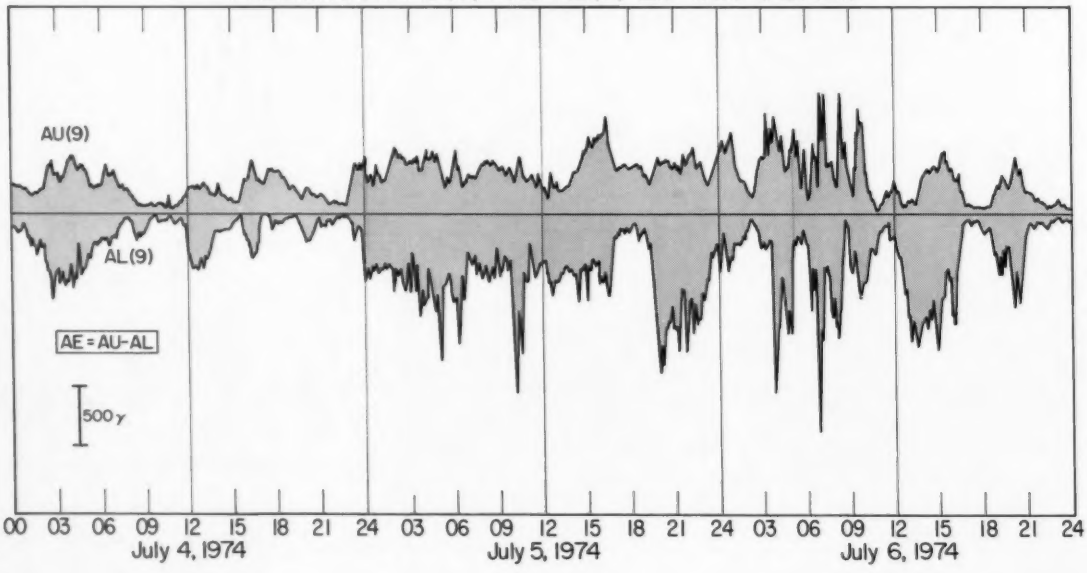
JULY 4-6, 1974



↓ Denotes Local Geomagnetic Midnight

Observatory latitude in Corrected Geomagnetic Coordinates.

PRELIMINARY AU(9) AND AL(9) 2.5-MIN. INDICES



JUNE 1974 DATA

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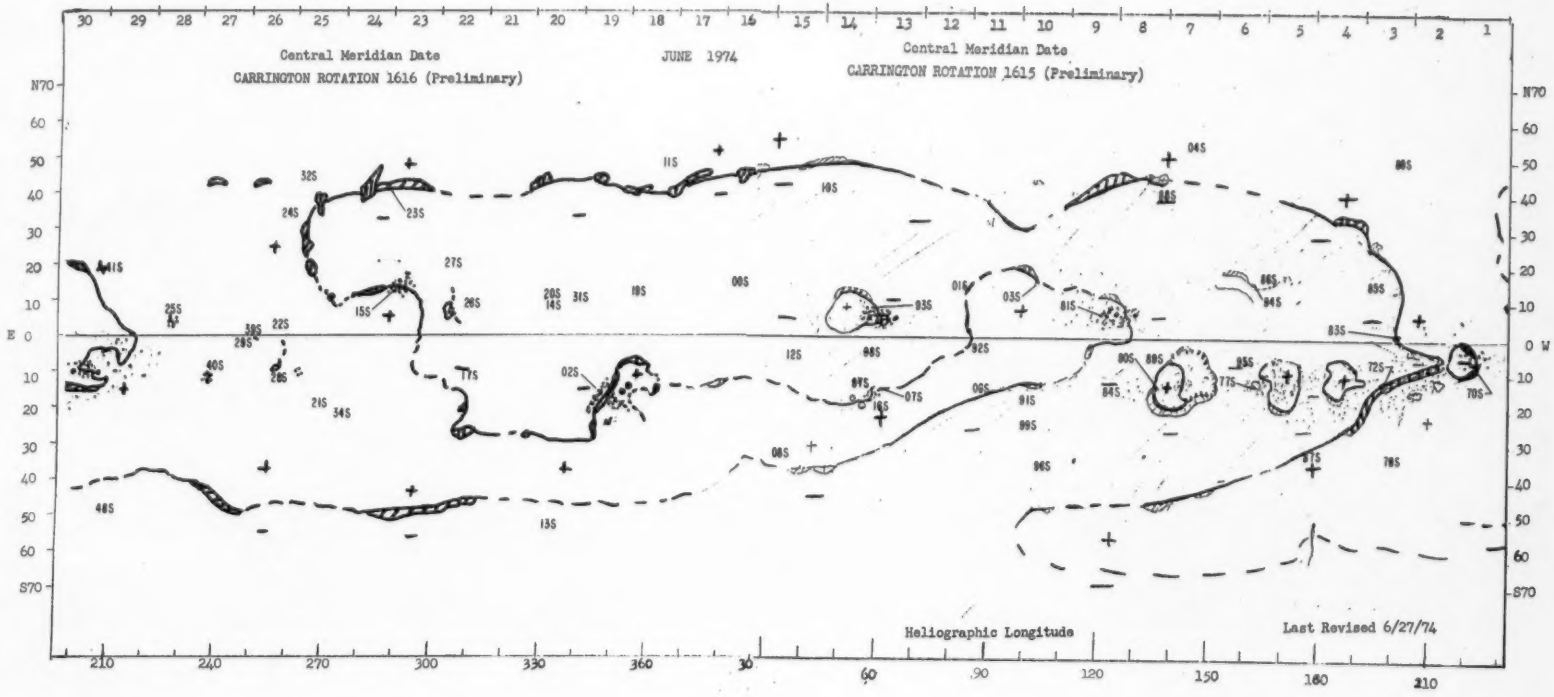
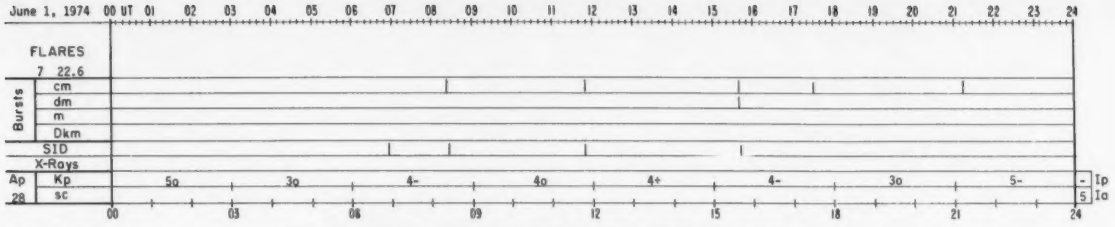
For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

ABBREVIATED CALENDAR RECORD

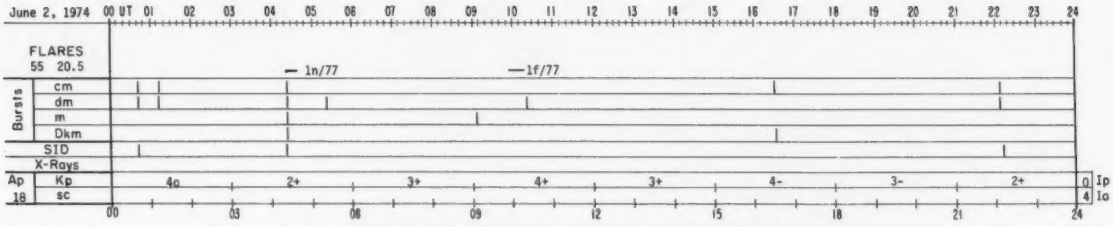
JUNE 1974





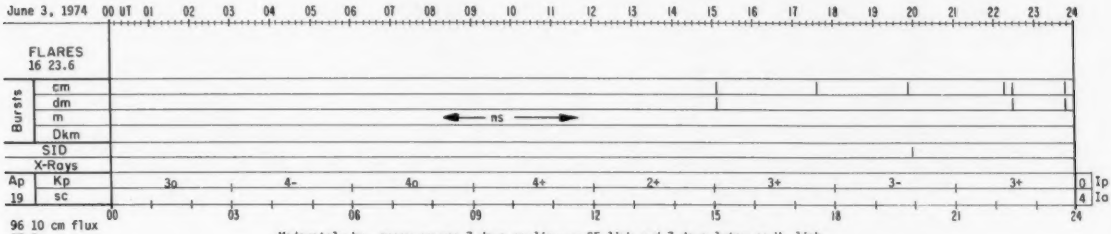
95 10 cm flux
38 Rz
CMP 12970 S04 (3) S04

Homogeneous auroral arc seen from aircraft over Western Atlantic at ϕ = 58° with arc estimated to be overhead at ϕ = 65° - 66° 0157-0215; no coronal data 7 days earlier on E. limb.



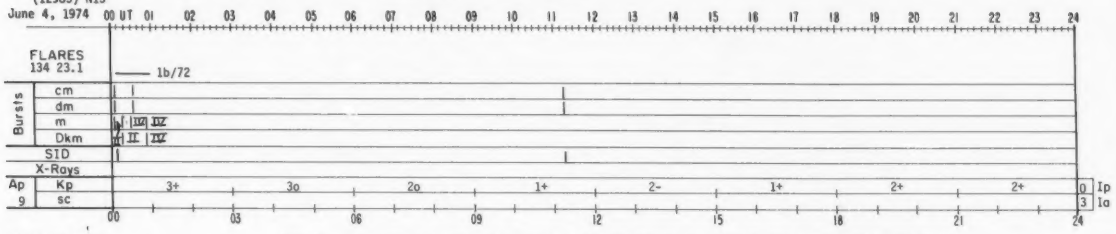
97 10 cm flux
49 Rz

Br. green corona 7 days earlier on SE limb, no coronal data 7 days later on W. limb.



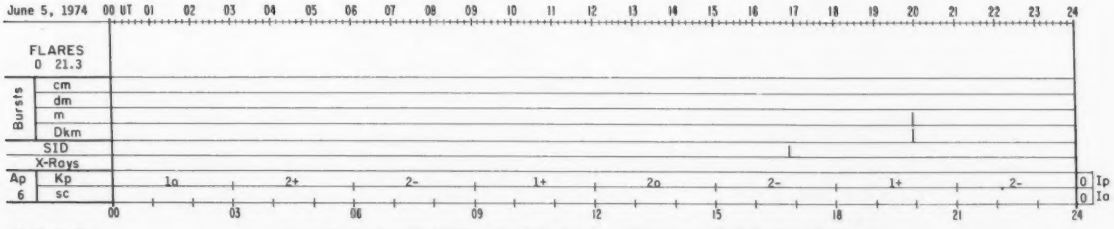
96 10 cm flux
55 Rz
CMP (12979) S34
(12983) N01
(12980) N49
12972 S13 (2&3) (19398) S12 (α)3 CMP June 2 (19403) S14 (αp)1 CMP June 2 (19407) S10 (αp)2 CMP June 5
(19399) S16 (19404) S04 (βp)1 CMP June 2 (19409) S07 (α)1 CMP June 4
(19401) S10 (αp)2 CMP June 2 19405 S14 (β)2 CMP June 4
19402 S13 (βp)4 (19406) S14 (αp)1 CMP June 4
(12985) N15

Moderately br. green corona 7 days earlier on SE limb and 7 days later on W. limb.



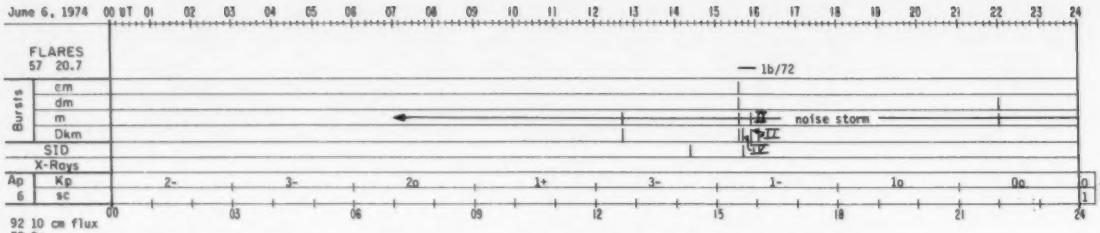
95 10 cm flux
80 Rz
CMP (12987) S34

Very br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days earlier on NE limb.



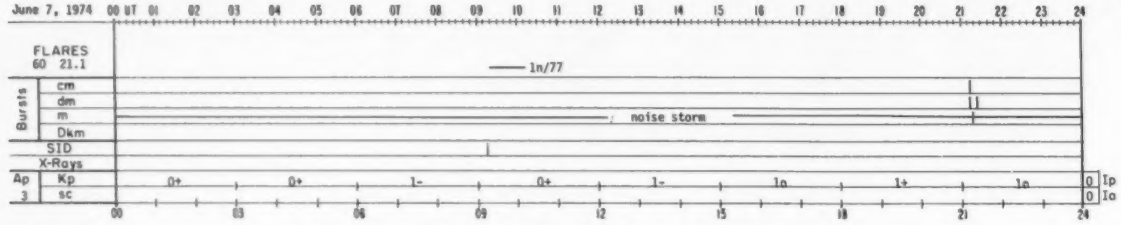
94 10 cm flux
62 Rz
CMP 12986 N17

One of five most magnetically quiet days; very br. green corona 7 days earlier on SE limb.



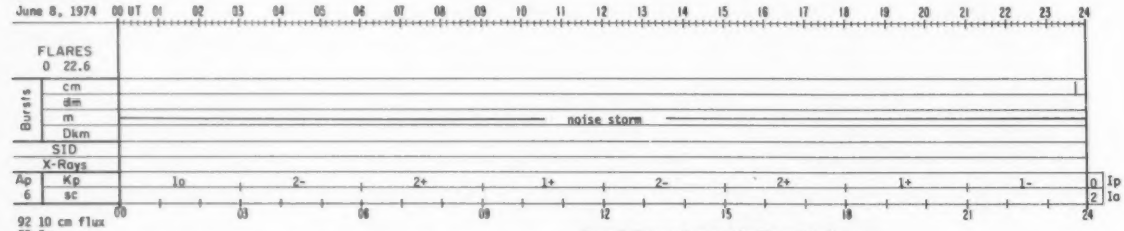
92 10 cm flux
78 Rz
CMP 12977 S14 19400 S14 (βp)4 CMP June 5 19413 S14 (βf)2
(19408) S20 (αf)1 CMP June 5
(12994) N15 (19416) N14 (αf)1
(12995) S07 (19417) S08 (βf)3

One of five most magnetically quiet days; moderately br. green corona 7 days earlier on SE limb, no coronal data 7 days later on W. limb.



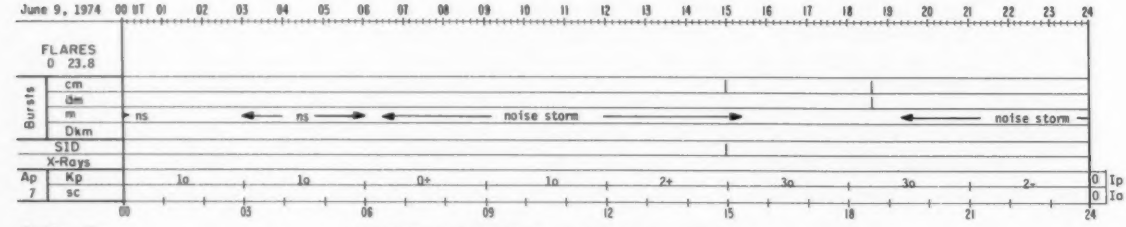
90 10 cm flux
70 Rz
CMP (13004) N53

One of five most magnetically quiet days, extremely quiet 0000-0600 and 0900-1200; very br. green corona 7 days later on SW limb.



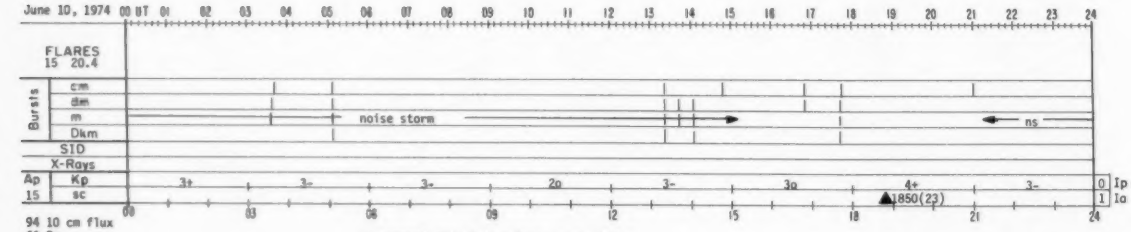
92 10 cm flux
59 Rz
CMP 12990 S15 (19411) S18 (βp)1 CMP June 7 (19415) S14 (αp)3
(19412) S14 (αp)2 CMP June 7 (19419) S16 βf
(12988) N38
(12989) S05

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



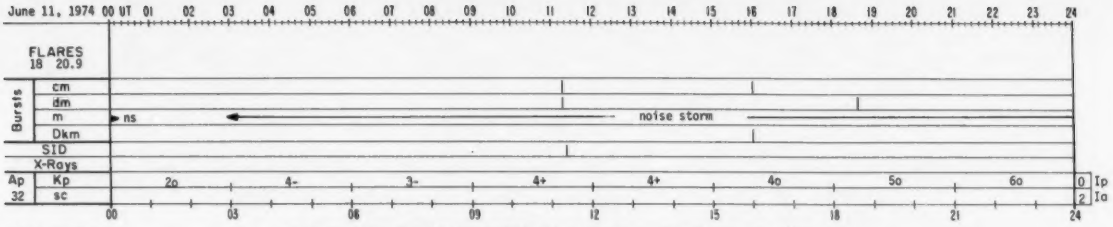
92 10 cm flux
64 Rz
CMP 12984 S14
12981 N06 19410 N04 (βp)3 CMP June 8

One of five most magnetically quiet days; no coronal data 7 days later on W. limb.



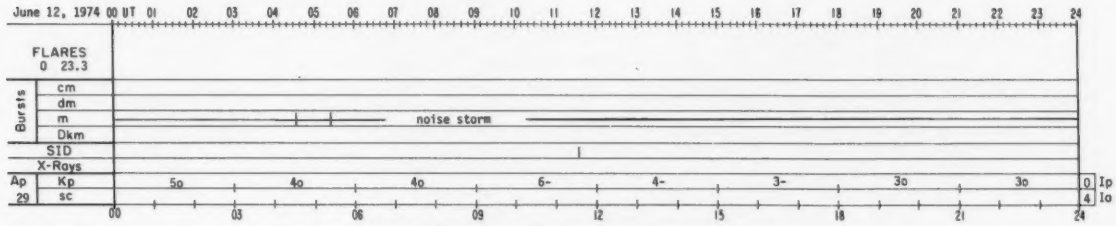
94 10 cm flux
61 Rz
CMP 12996 S36
(13003) N16
(12991) S17
12999 S25

No coronal data 7 days later on W. limb.



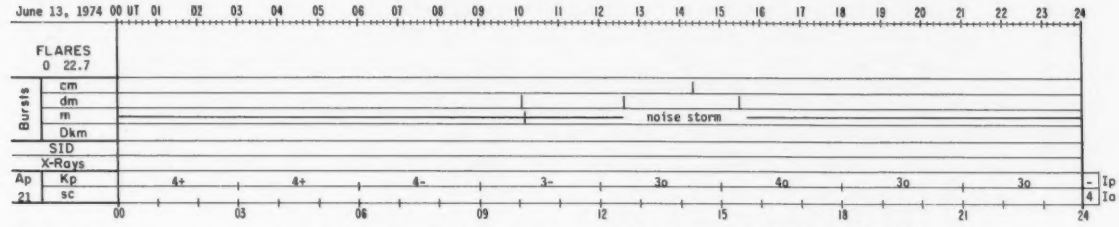
92 10 cm flux
58 Rz
CMP (13006) S15
(12992) S04

One of five most magnetically disturbed days, with moderate activity after 0900; moderately br. green corona 7 days later on NW limb.



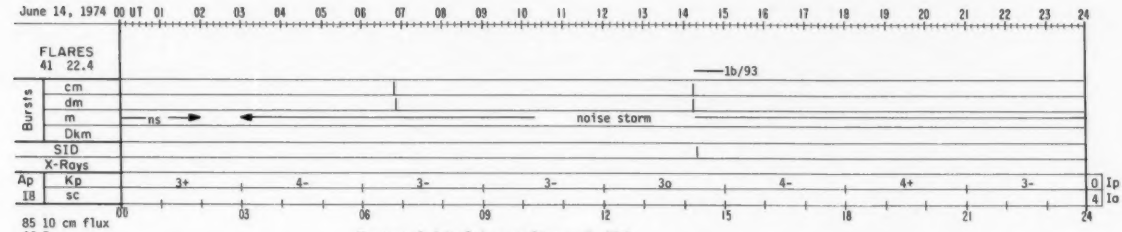
89 10 cm flux
38 Rz
CMP 13001 N14

One of five most magnetically disturbed days, with moderate activity to 1500; moderately br. green corona 7 days later on NW limb.



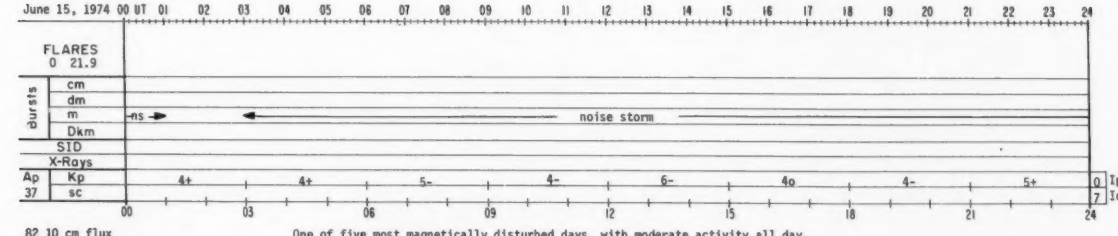
87 10 cm flux
48 Rz
CMP (13007) S15
(13016) S20

No coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on NW limb.



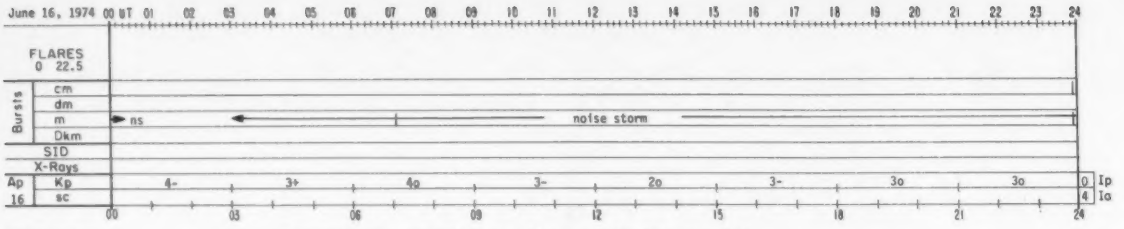
85 10 cm flux
46 Rz
CMP (12998) S05
12993 N06 19414 N06 (βp)5 CMP June 13
(12997) S13
(13010) N40

No coronal data 7 days earlier on E. limb.



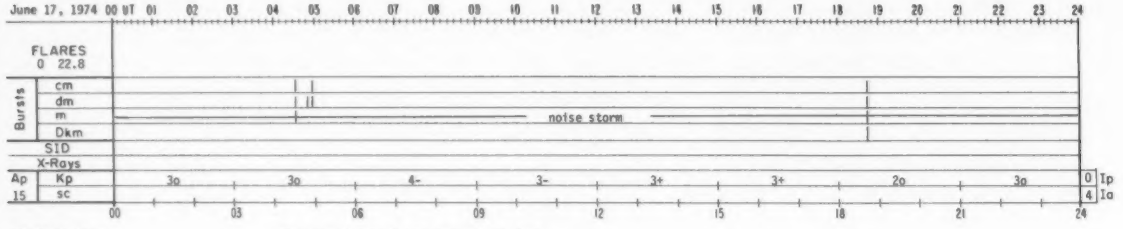
82 10 cm flux
34 Rz
CMP (13012) S06
13008 S34

One of five most magnetically disturbed days, with moderate activity all day.



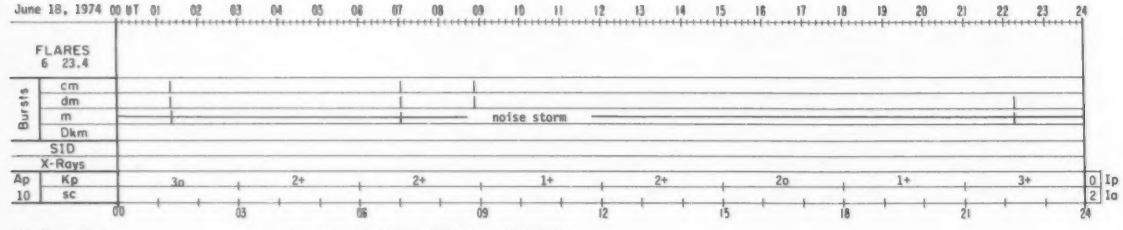
84 10 cm flux
25 Rz
CMP (13000) N14

No coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



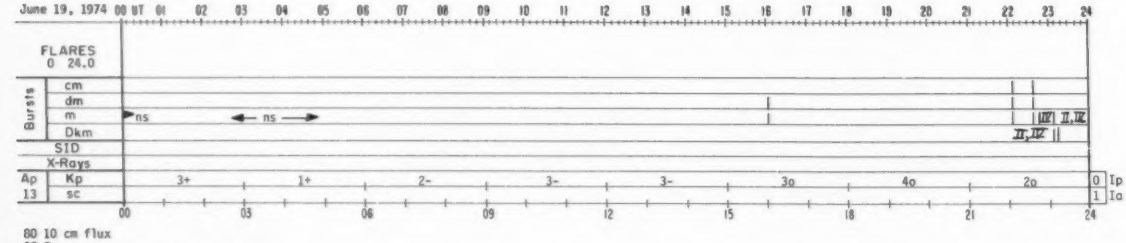
84 10 cm flux
24 Rz

No coronal data 7 days later on W. limb.

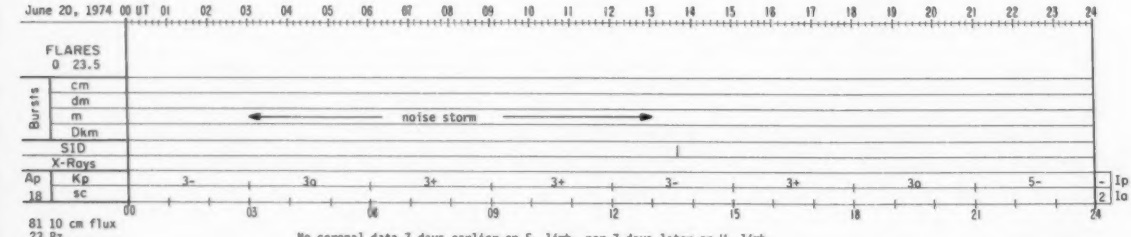


82 10 cm flux
29 Rz
CMP (13011) N47
(13019) N11

Aurora overhead over USSR at ϕ = 55° 2200.

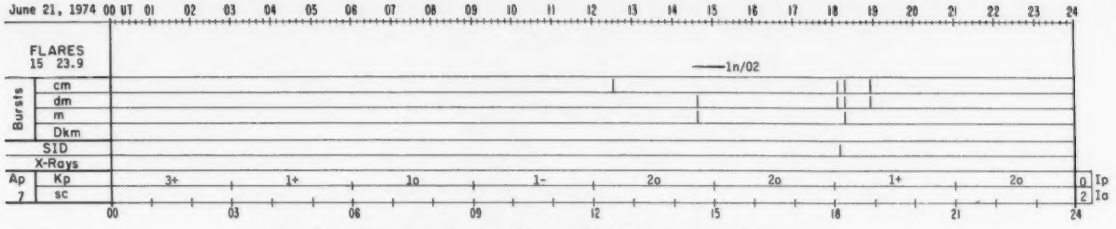


80 10 cm flux
32 Rz
CMP 13002 S16 (2) 19418 S14 (βp 4



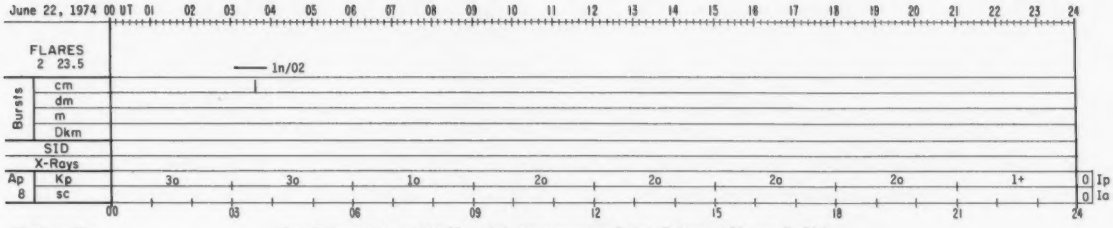
81 10 cm flux
23 Rz
CMP (13031) N09
(13013) S54
(13014) N08
(13020) N10

No coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



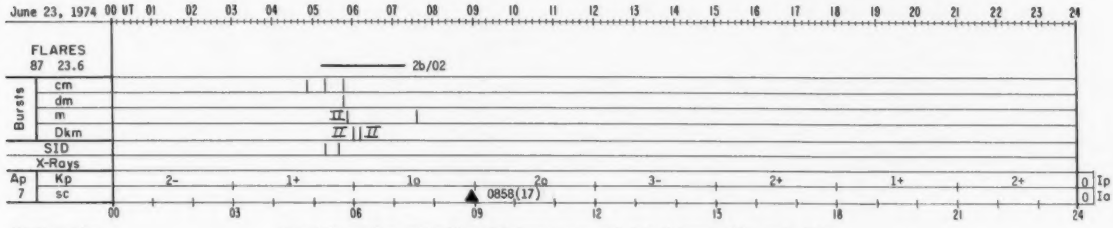
79 10 cm flux
20 Rz

One of ten most magnetically quiet days; moderately br. green corona 7 days earlier on E. limb, no coronal data 7 days later on W. limb.



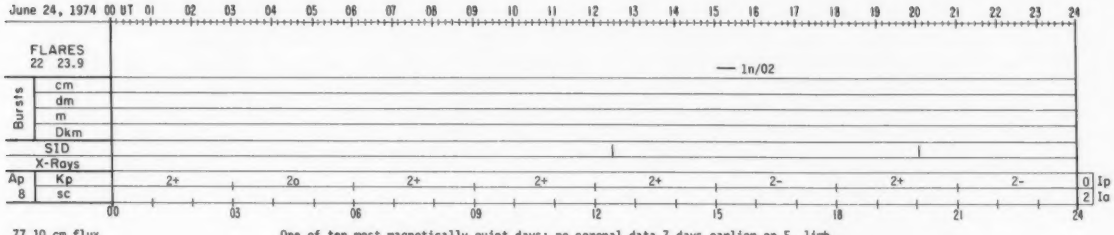
80 10 cm flux
11 Rz
CMP 13017 S12 S12
(13026) N08
(13027) N19

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb.



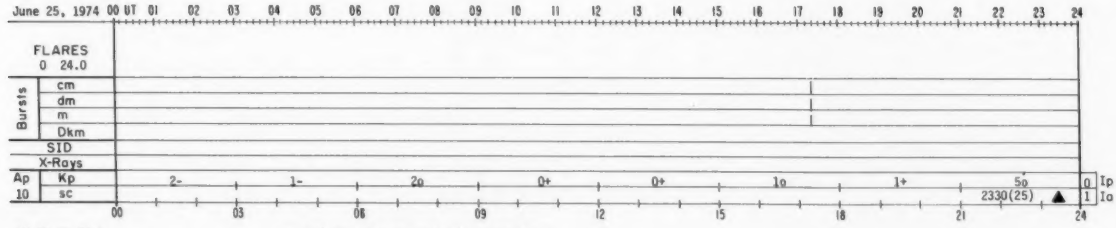
78 10 cm flux
11 Rz
CMP 13015 N11 (19422) N11 (βf)2

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb.



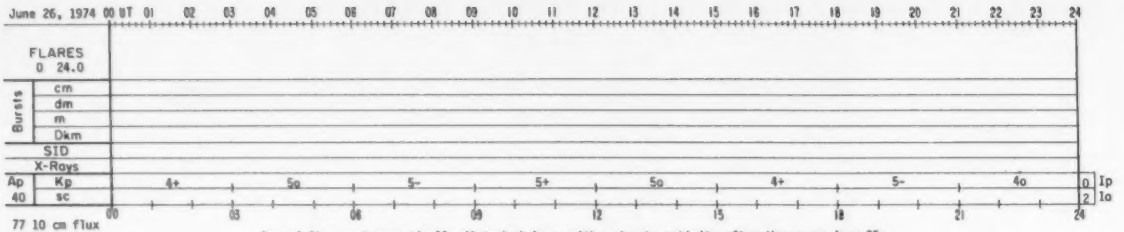
77 10 cm flux
16 Rz
CMP (13023) N40

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



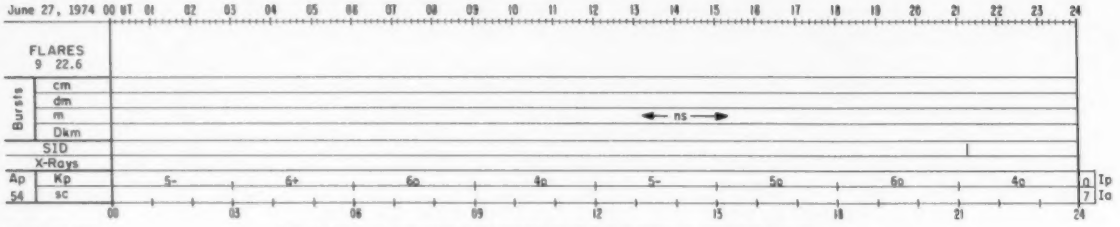
76 10 cm flux
15 Rz
CMP (13034) S23
(13021) S20
(13032) N44

One of ten most magnetically quiet days.



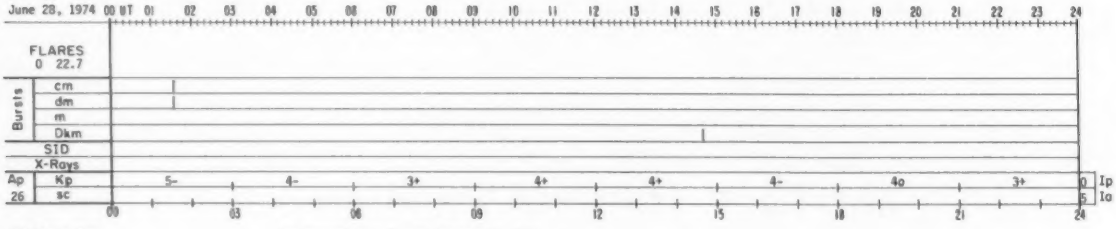
77 10 cm flux
8 Rz
CMP (13024) N33
(13022) N02
(13028) S11 (19423) S10 (Bp)2
(13039) N01

One of five most magnetically disturbed days, with moderate activity after the sc on June 25; aurora overhead over USSR at ϕ = 55° 2200, homogeneous auroral arc seen from aircraft over mid-atlantic at ϕ = 59° with arc estimated to be overhead at ϕ = 65° 0247-0333 when arc became rayed and faded in dawn sky at 0420; there was a simultaneous appearance of noctilucent cloud bands, still visible when the aurora faded.



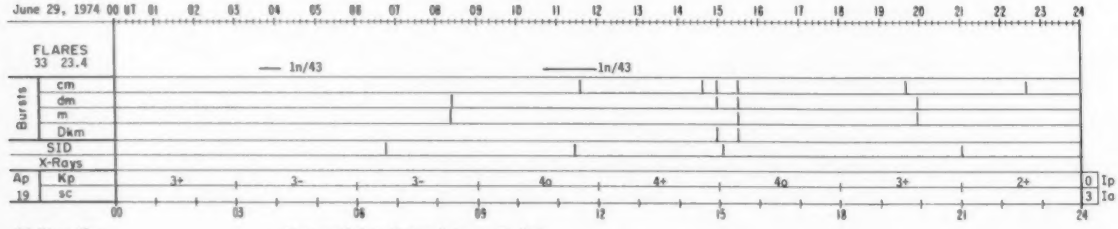
80 10 cm flux
8 Rz
CMP (13029) S01
13040 S11 19425 S11

One of five most magnetically disturbed days, with moderate to moderately severe storm continuing after the sc on June 25; no coronal data 7 days later on W. limb.



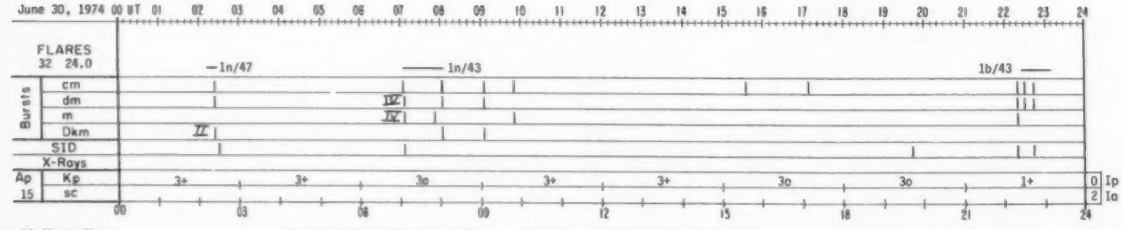
80 10 cm flux
18 Rz
CMP (13025) N06

No coronal data 7 days later on W. limb.



86 10 cm flux
30 Rz

No coronal data 7 days later on W. limb.



90 10 cm flux
52 Rz
CMP (13048) S48
(13041) N17

No coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.

REGIONAL FLARE INDEX

JUNE 1974

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
12970	S 4	74/06/01.7	74/05/31	74/05/31	15.70	15.70	1
12972	S13	74/06/03.5	74/05/27	74/06/06	193.69	17.61	6
12977	S14	74/06/06.2	74/05/30	74/06/07	193.74	21.53	18
12993	N 6	74/06/14.0	74/06/10	74/06/14	74.25	14.85	4
13002	S15	74/06/19.5	74/06/18	74/06/24	131.47	18.78	5
13030	S11	74/06/30.9	74/07/03	74/07/03	13.68	13.68	1

Note:
The Regional Flare Index and count of flares in each region has in previous months included each maximum of a multi-maximum event. This has caused some regions to appear to be more flare producing than is probably warranted. Beginning with April 1972 only the principal maximum of a multi-maximum event will be used in the calculation. Also note that only the Confirmed Events as selected for the "I.A.U. Quarterly Bulletin on Solar Activity" are included in the calculation.

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no confirmed flares during its disk passage.

MISCELLANEOUS DATA

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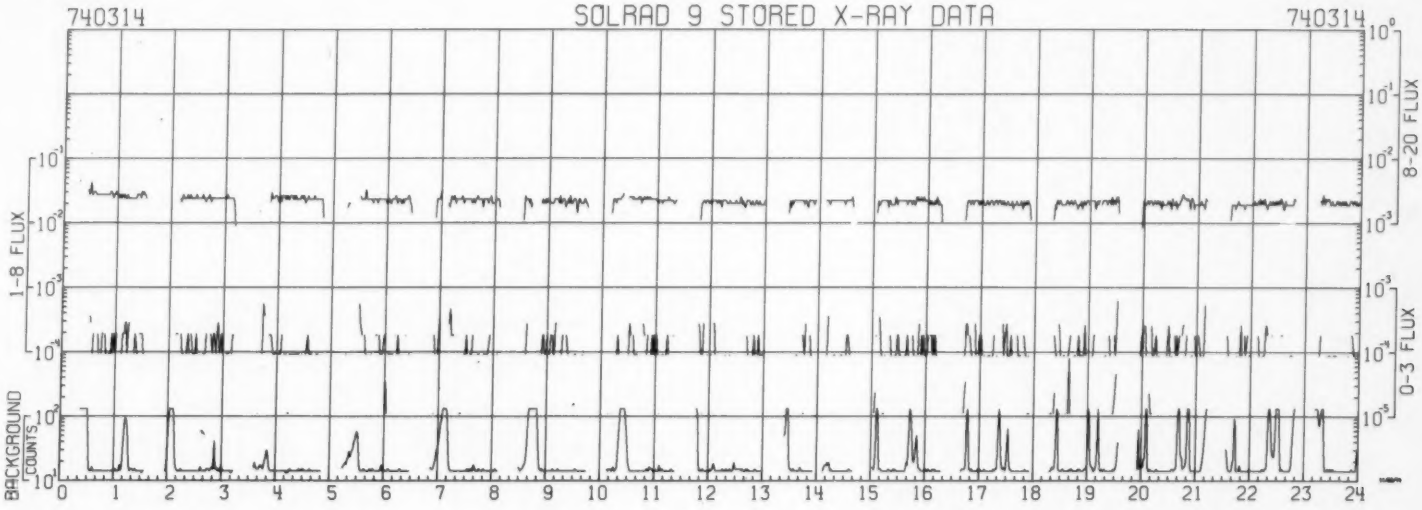
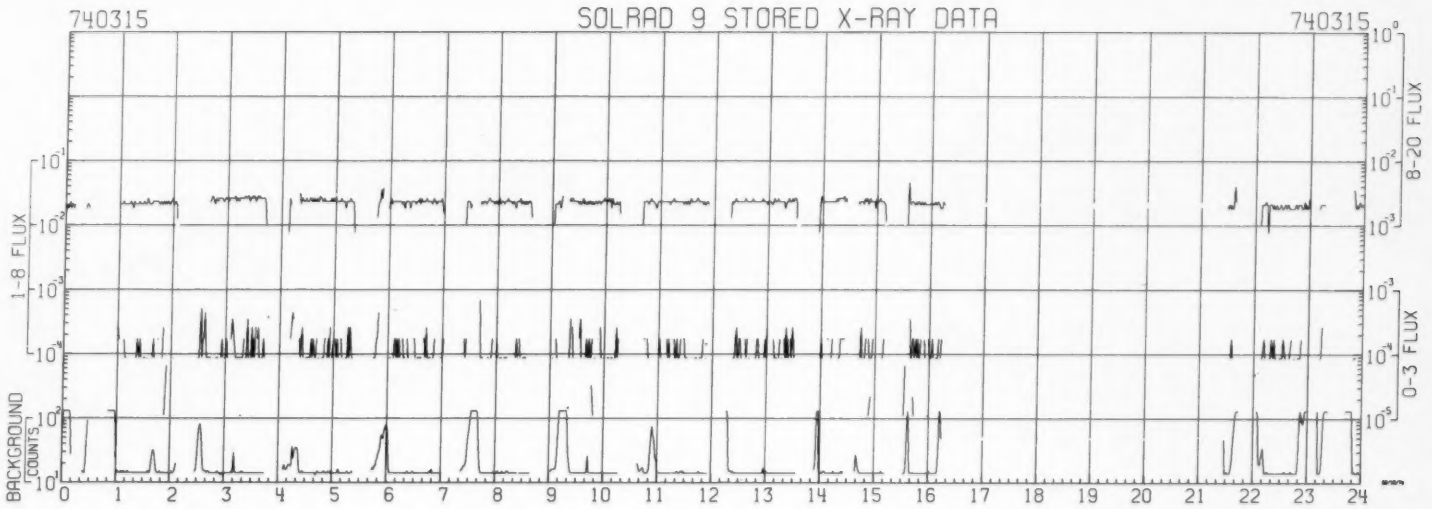
For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

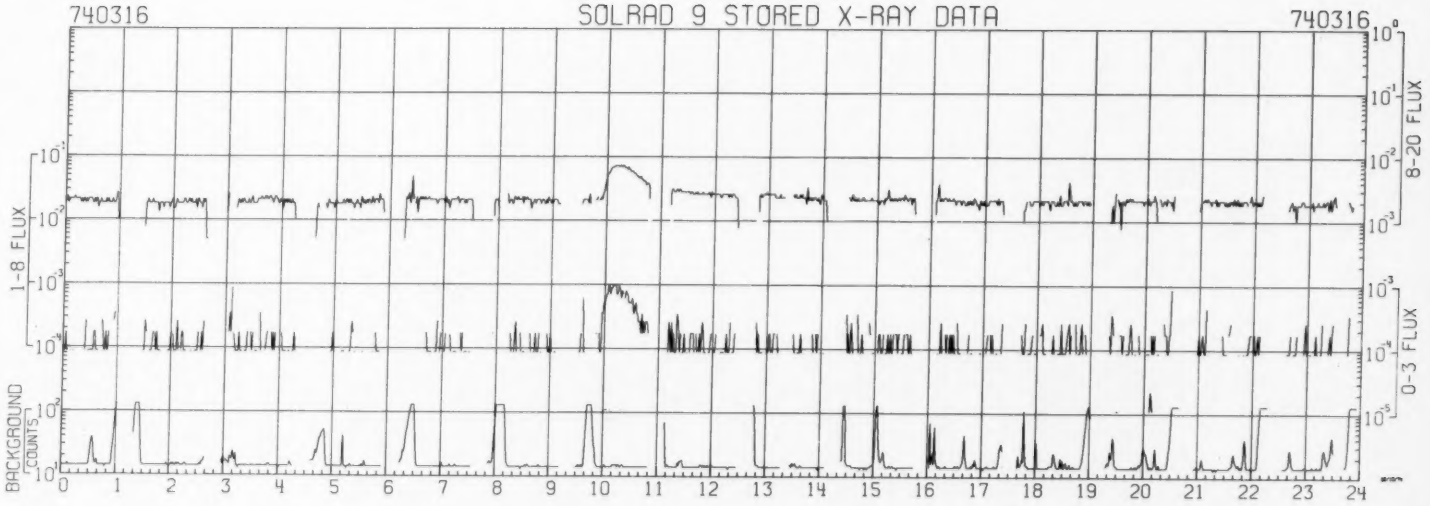
SOLAR X-RAYS MEASURED BY SATELLITE SOLRAD 9 - EXPLORER 37

MARCH 1974

84
Misc
Mar 74



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8-20 FLUX
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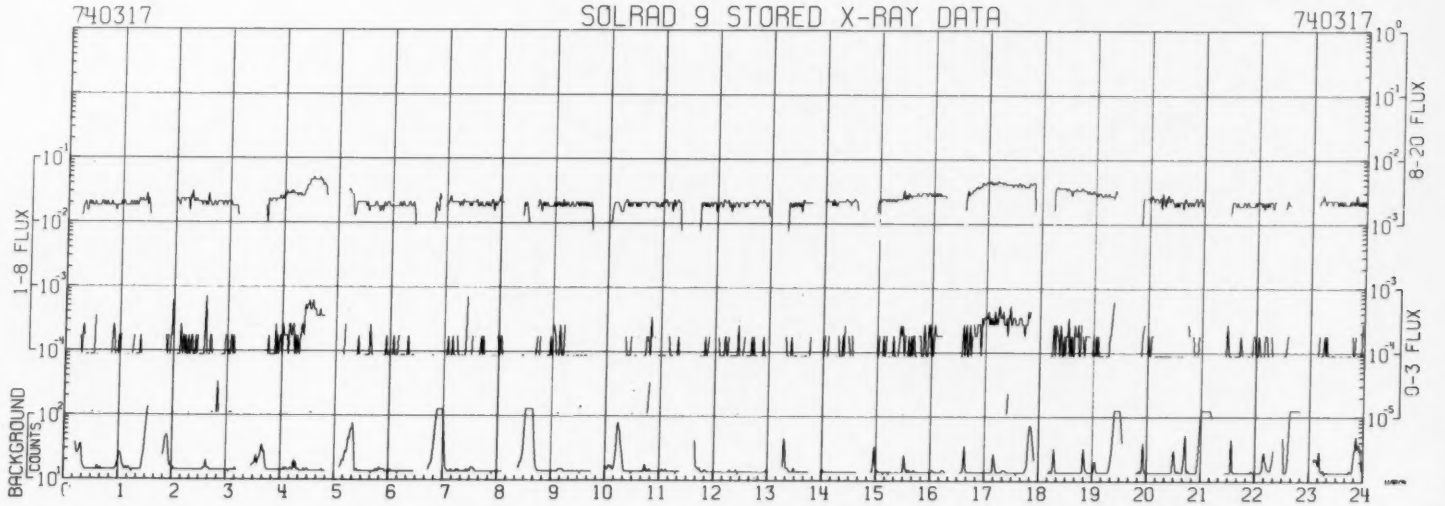
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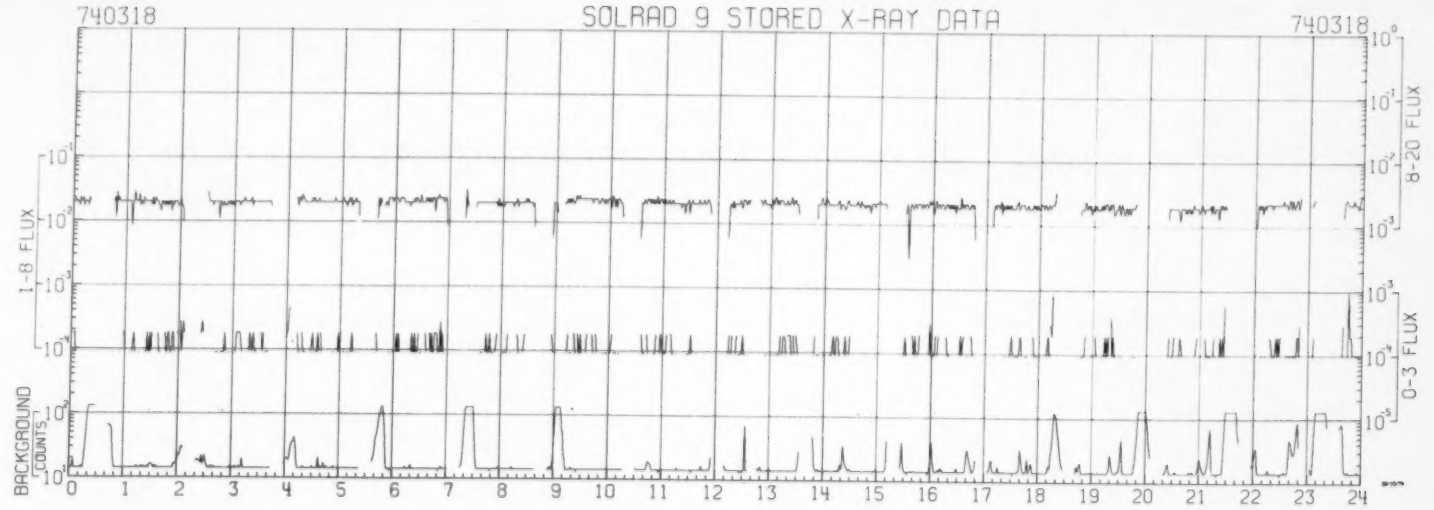
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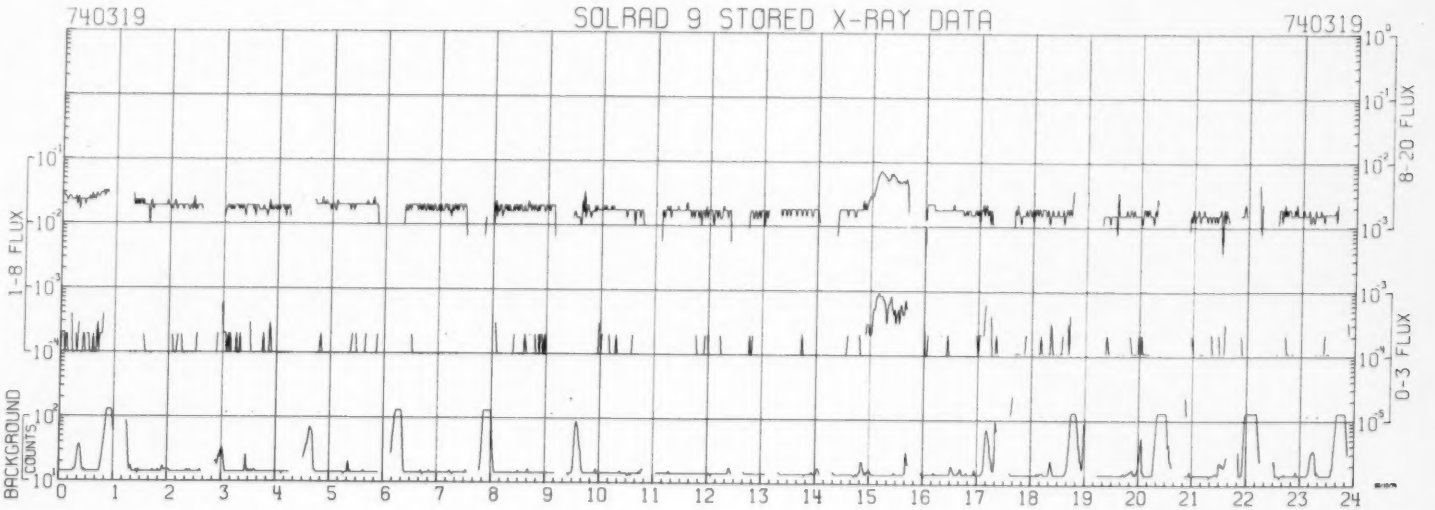
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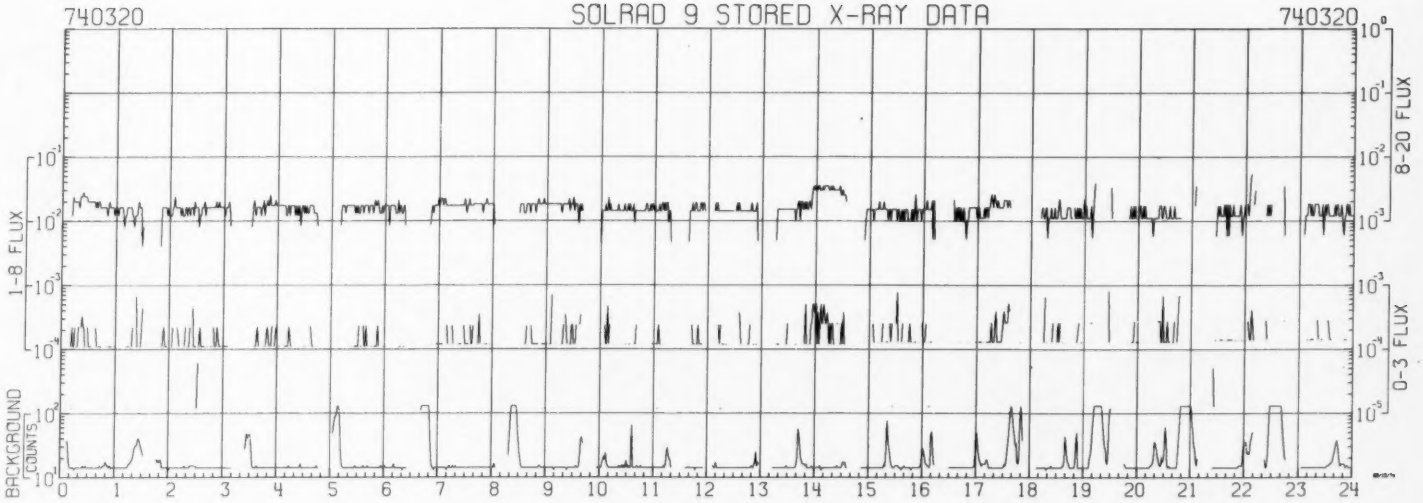
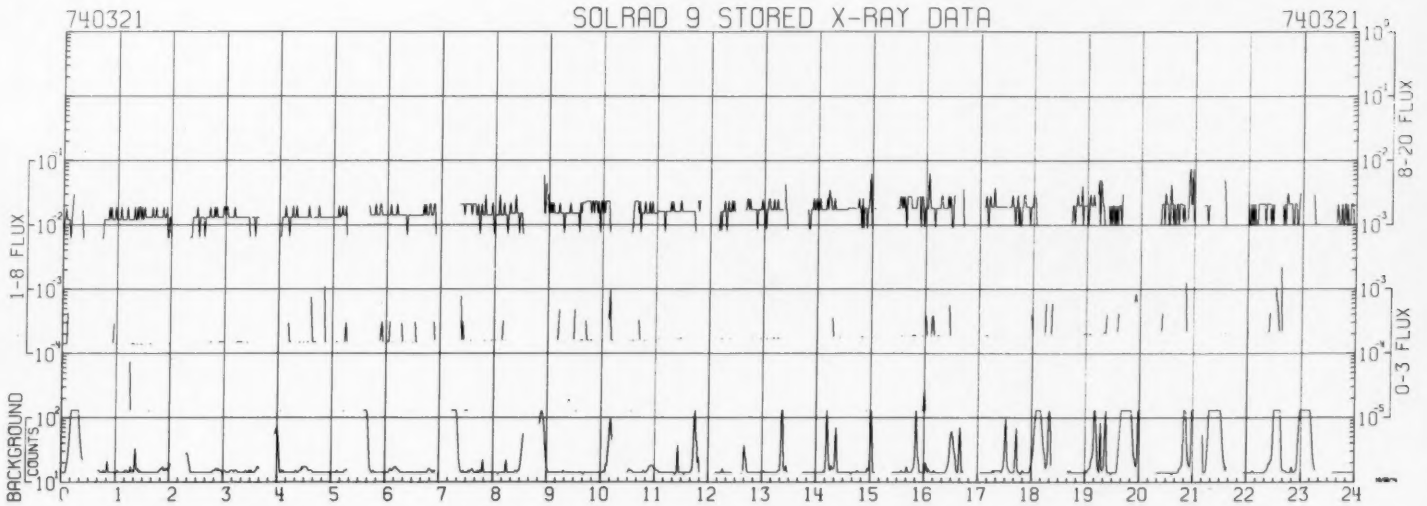
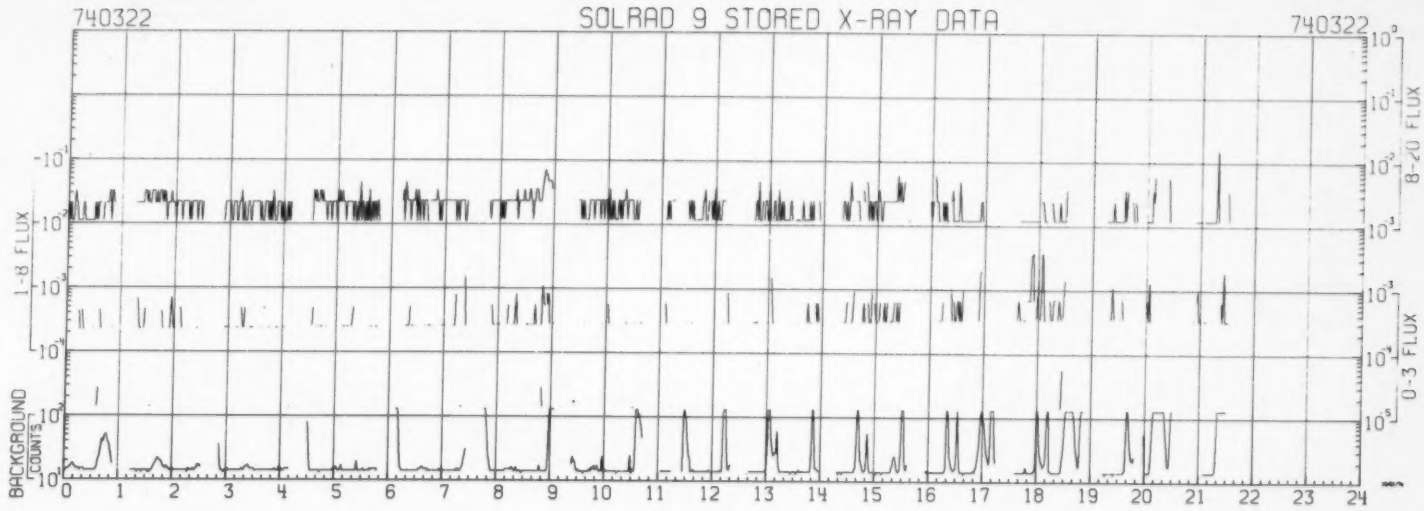




87
Misc
Mar 74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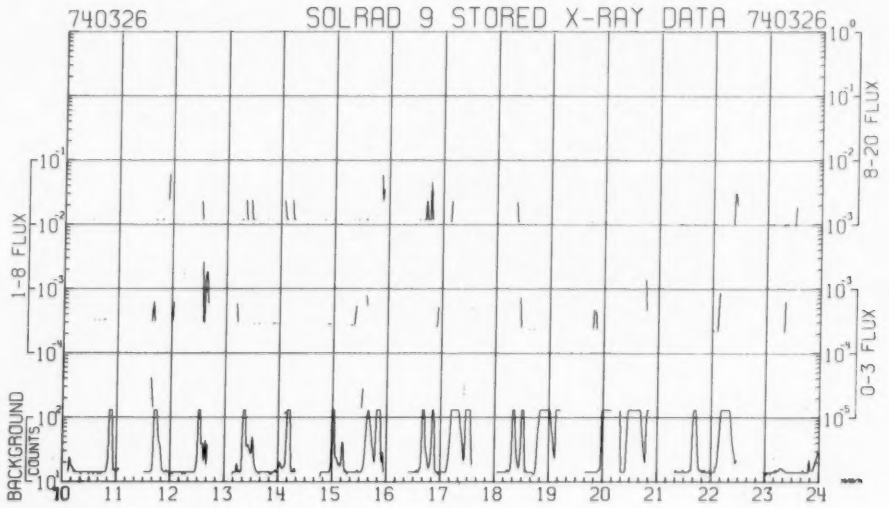
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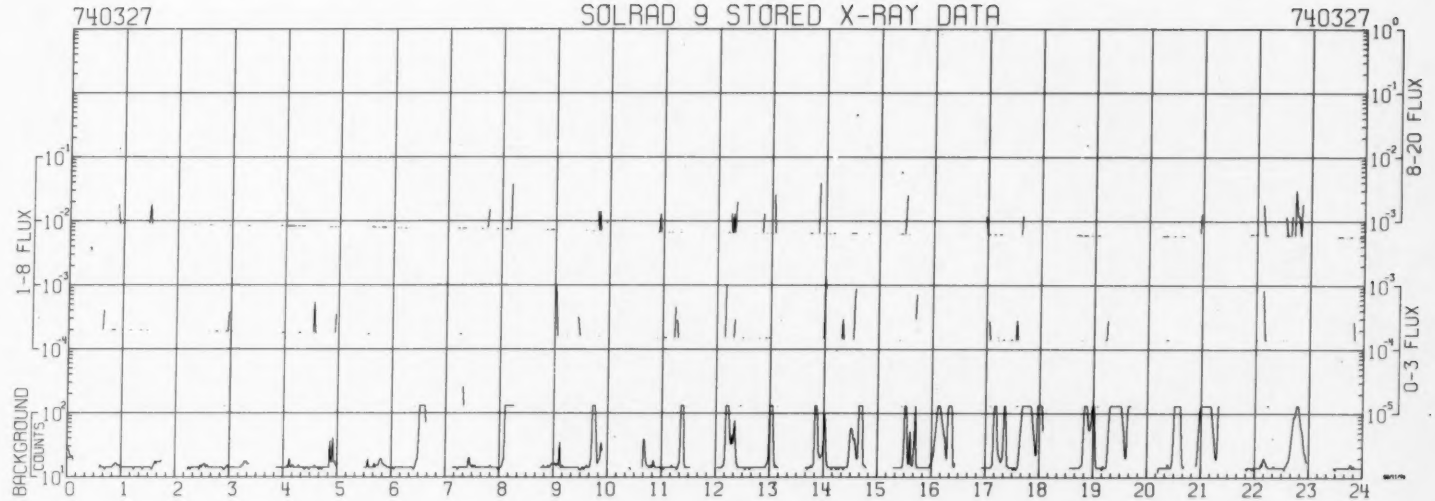
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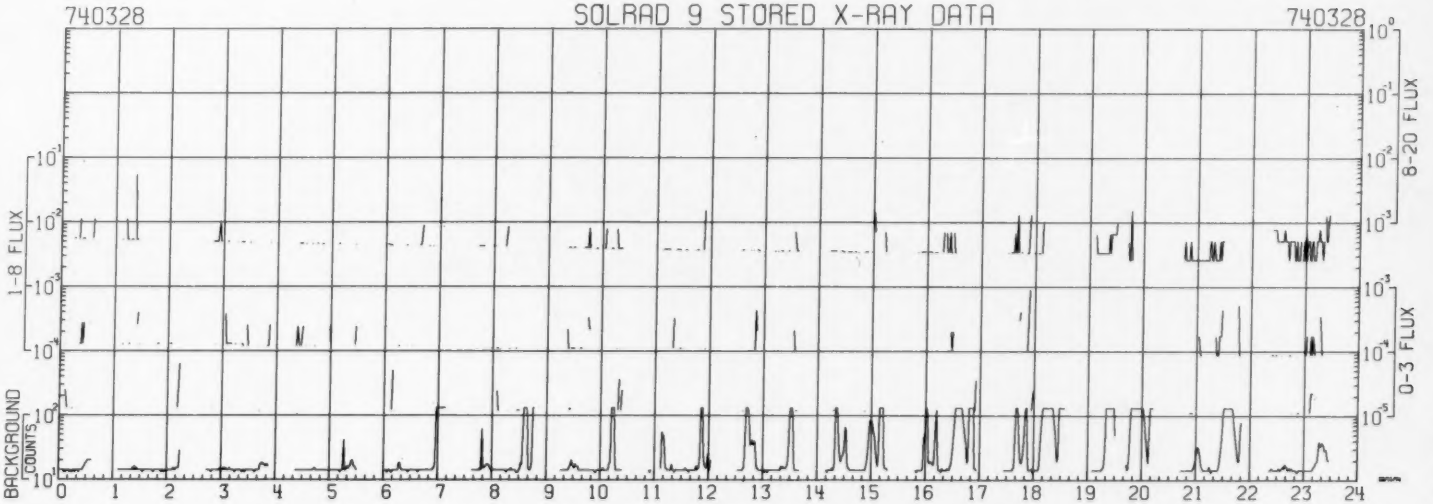
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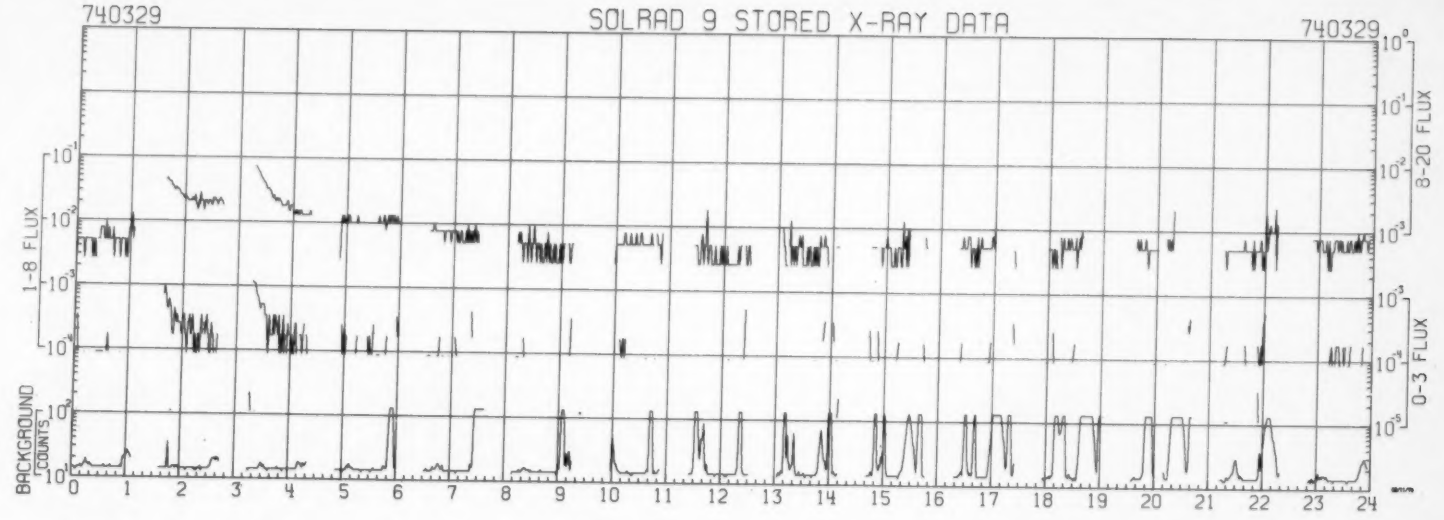
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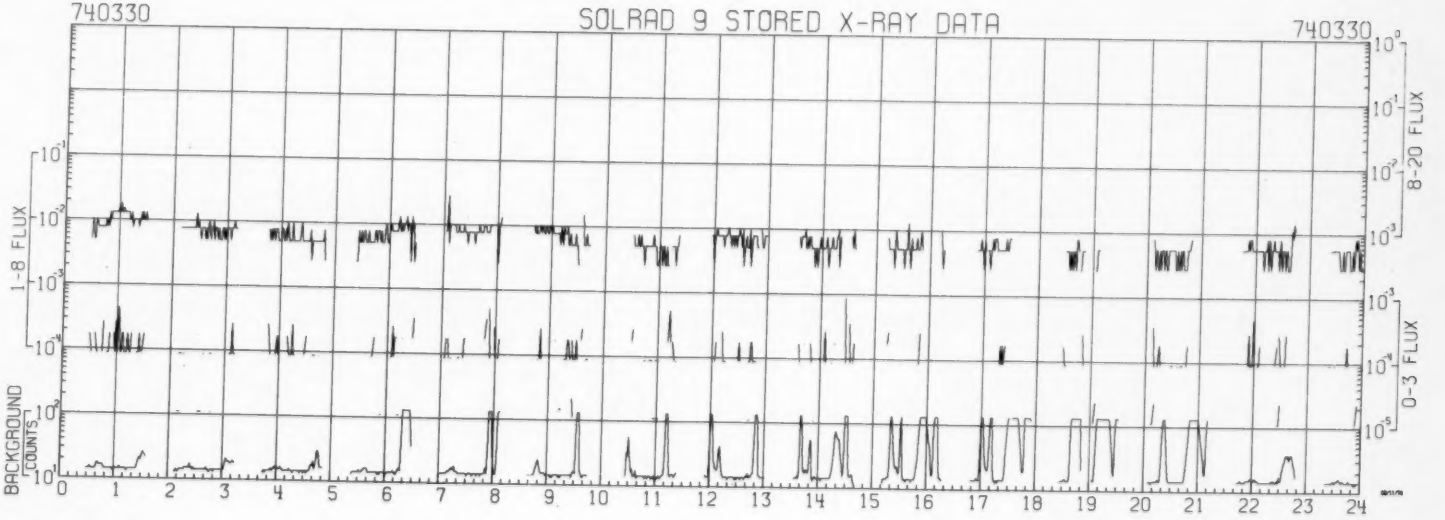
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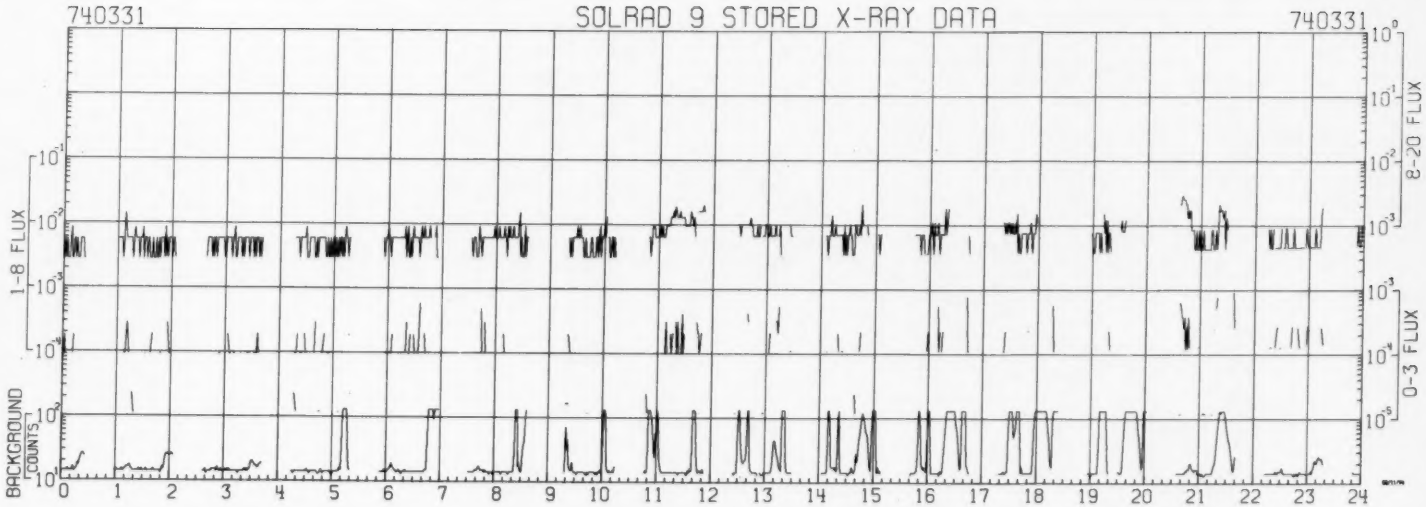
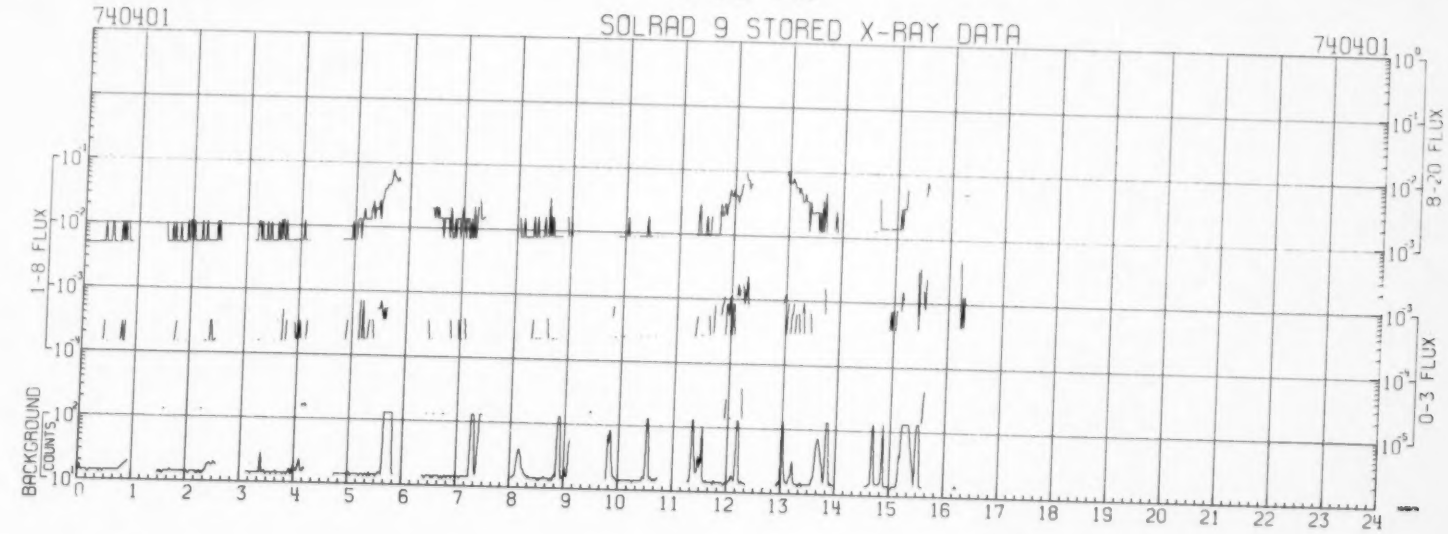


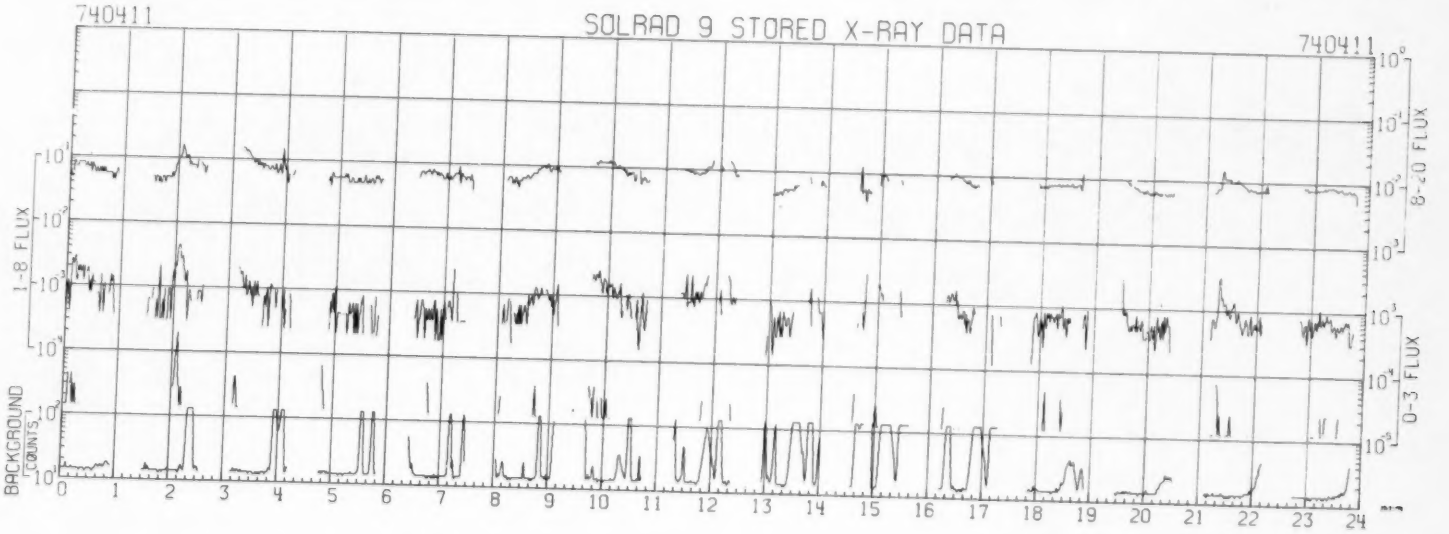
91
Misc
Mar 74

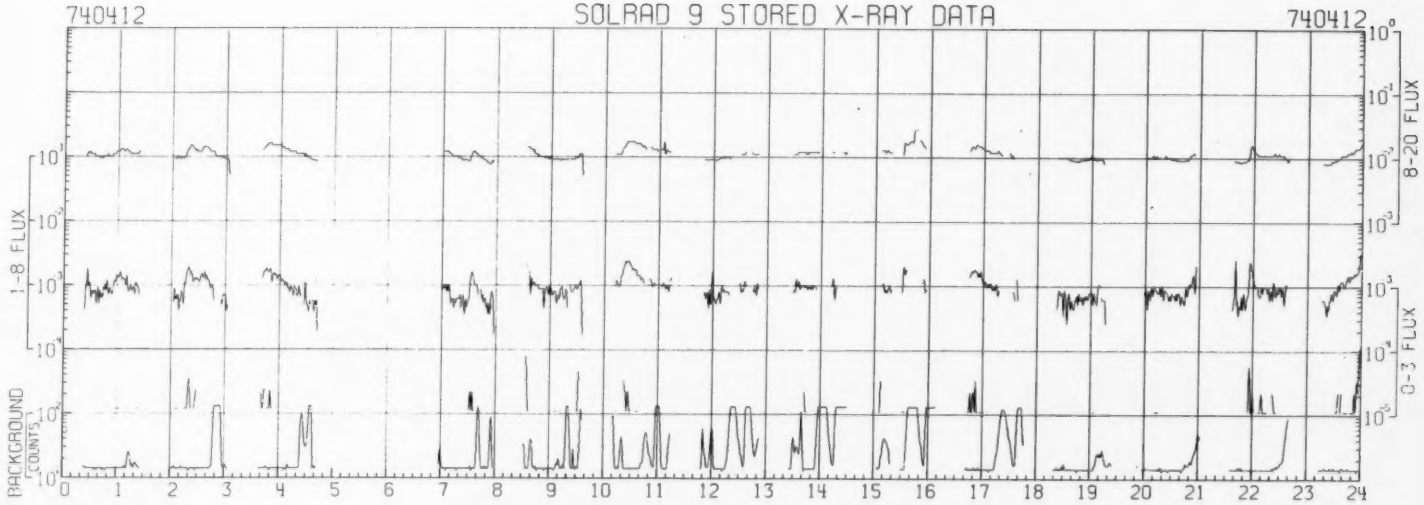
SOLAR X-RAYS MEASURED BY SATELLITE SOLRAD 9 - EXPLORER 37

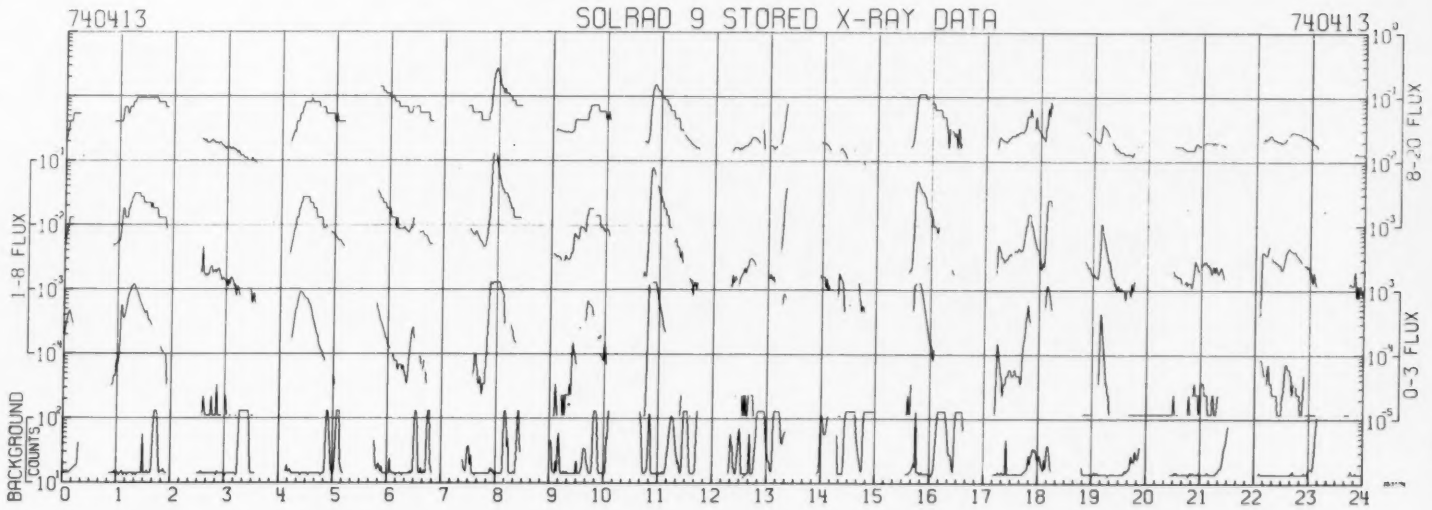
APRIL 1974

92
Misc
Apr 74

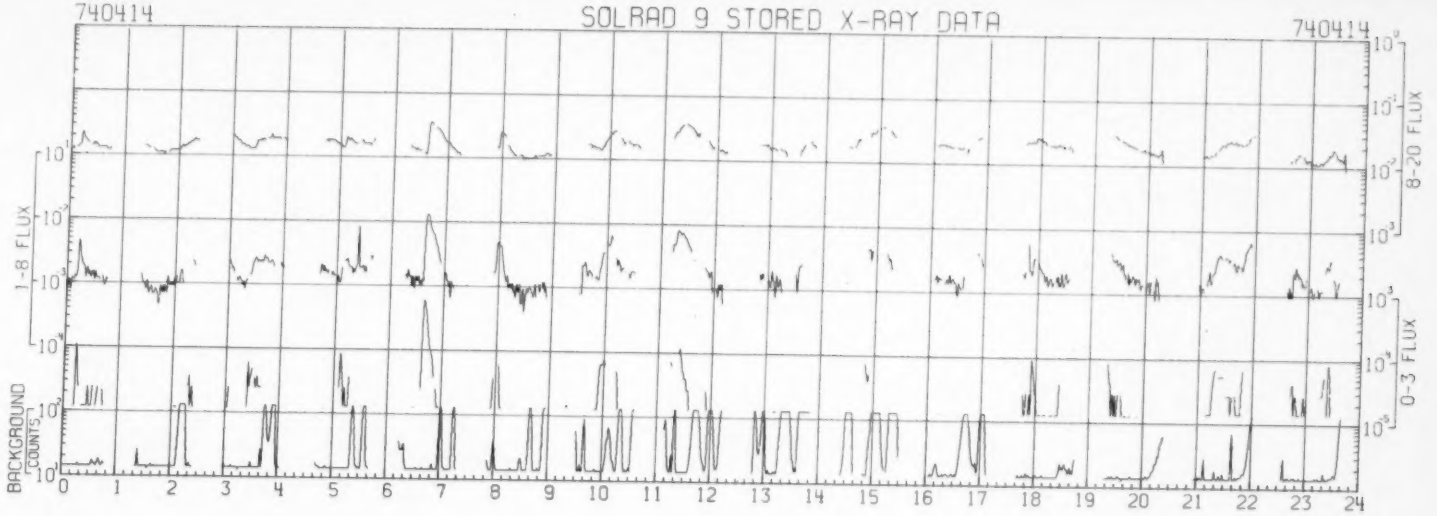








93
Misc
Apr 74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1-8 FLUX
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BACKGROUND (COUNTS)
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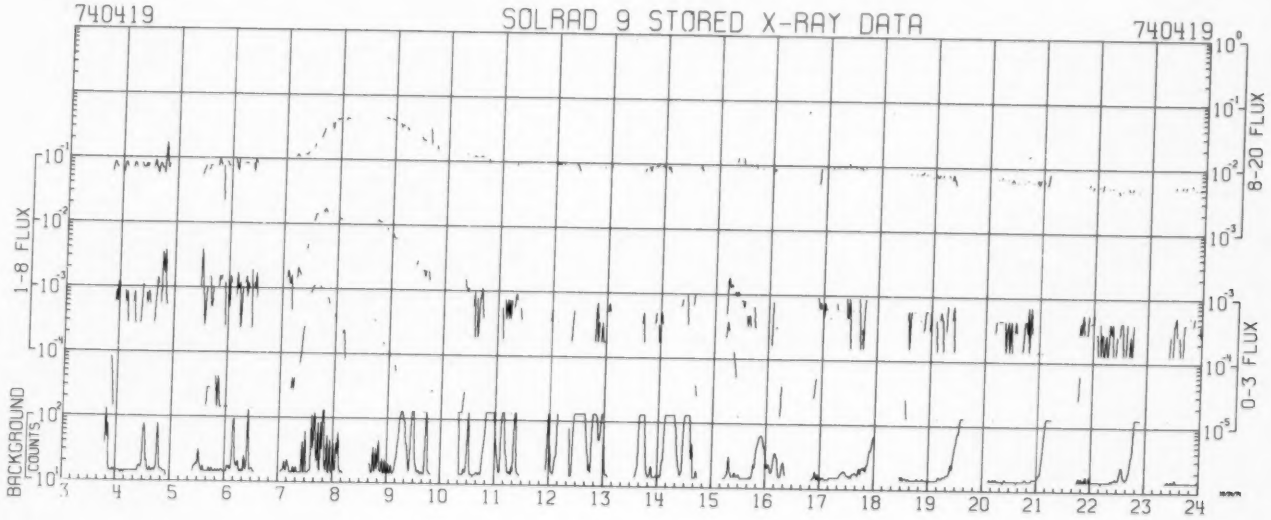
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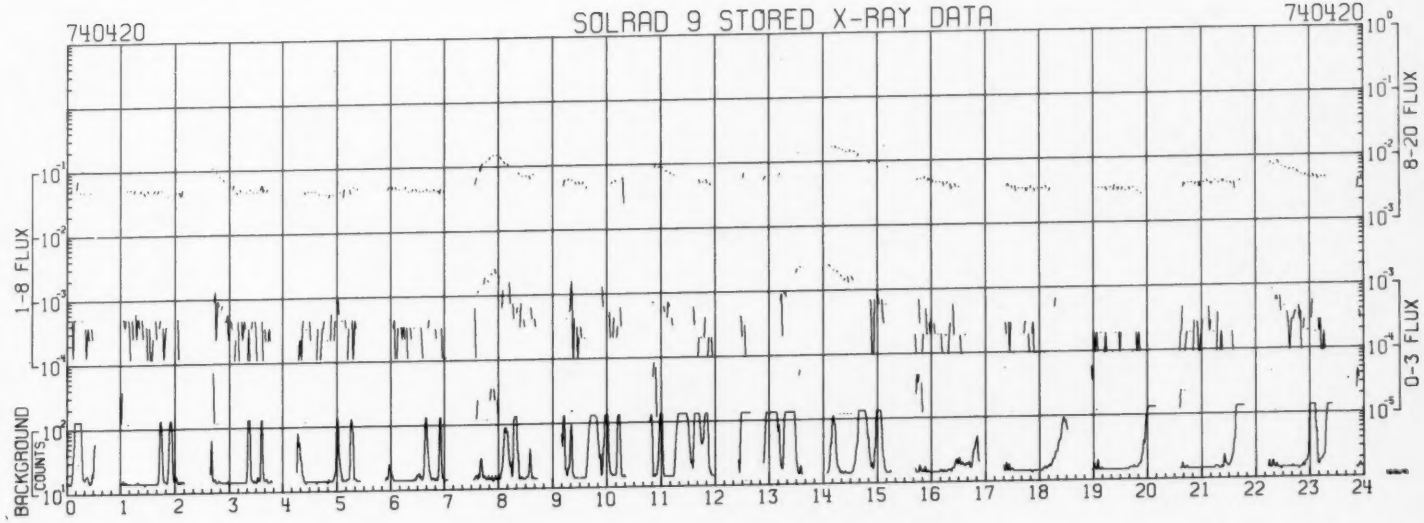
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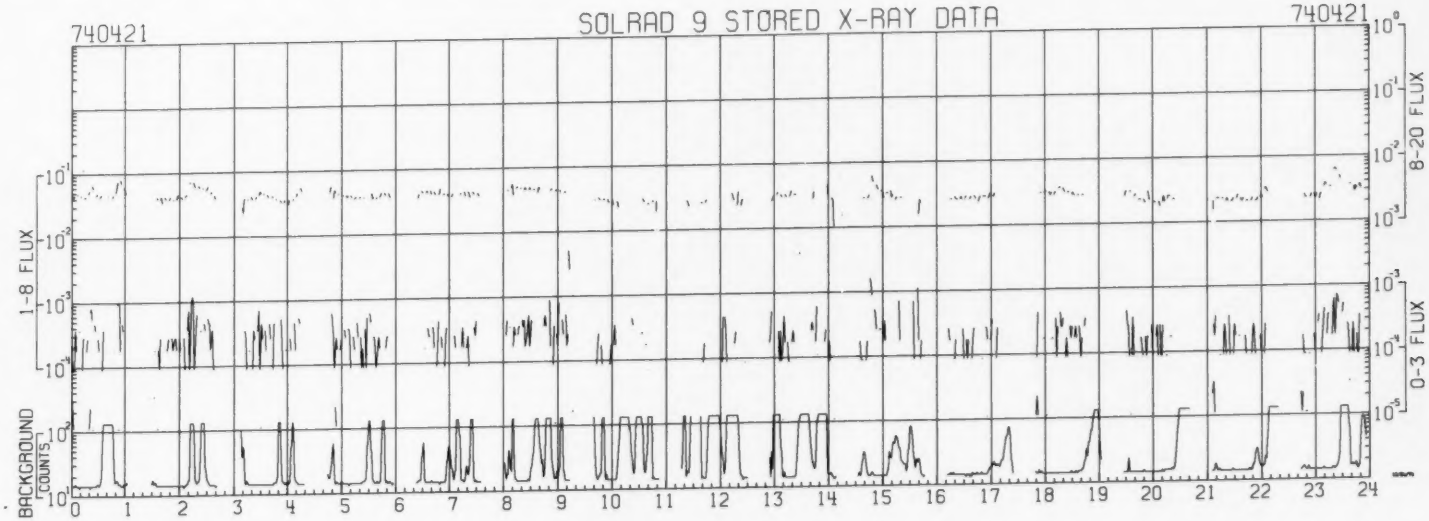
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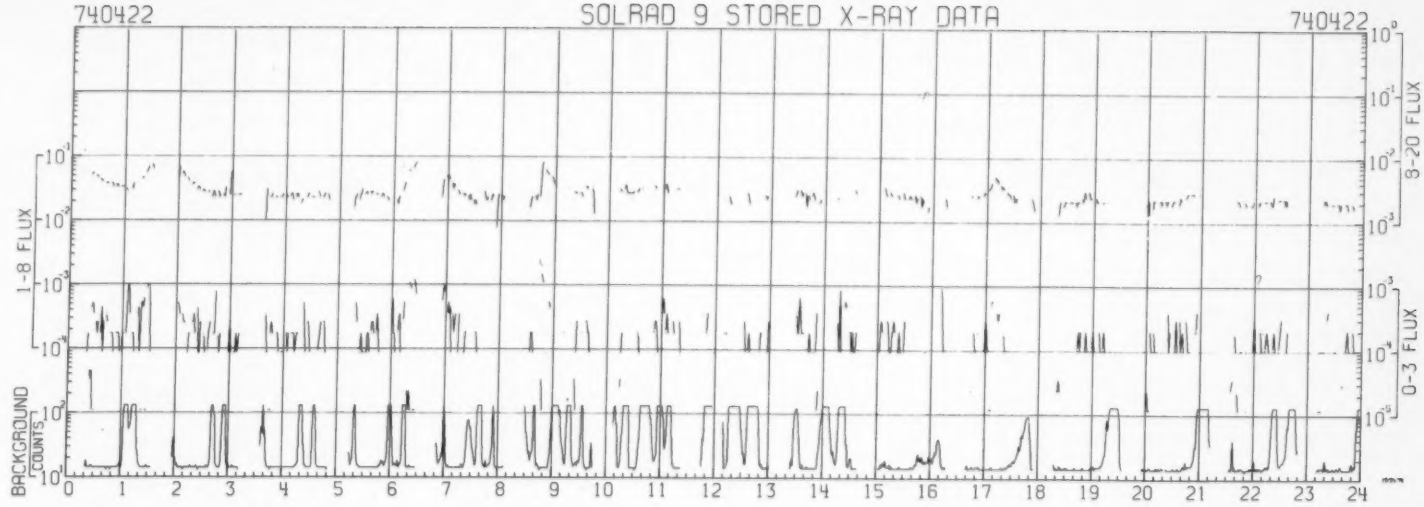
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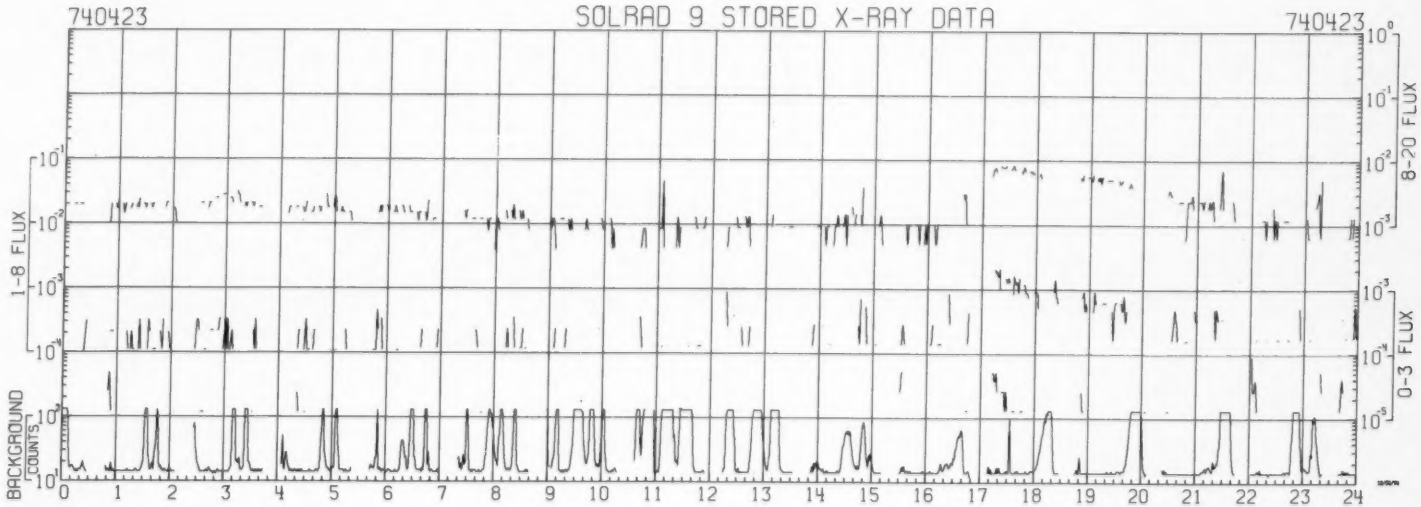
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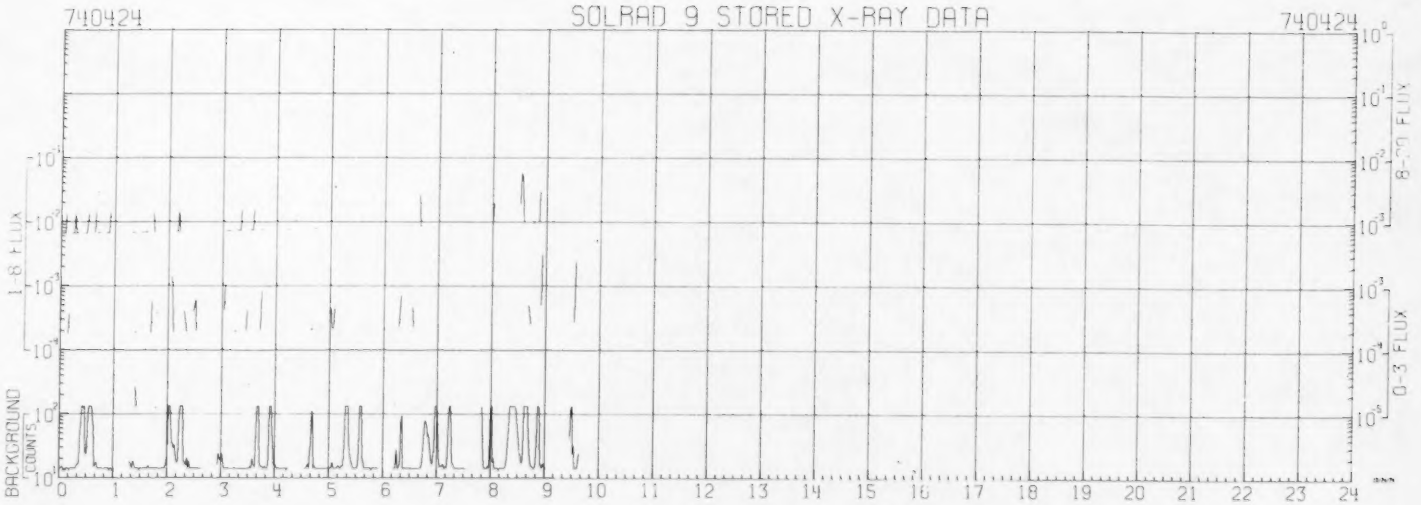
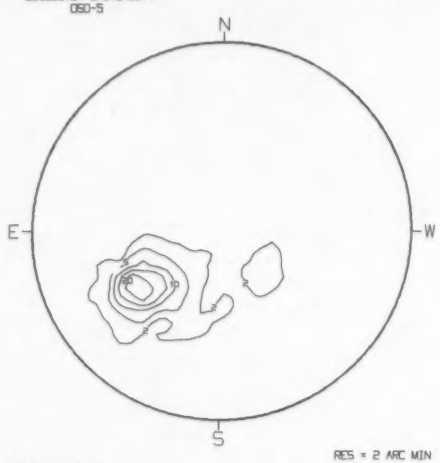


Note: These are the last X-ray graphs produced from the memory system of SOLRAD 9. The tabulations for the same period were published in *Solar-Geophysical Data* 364-Part II, pp. 57-61.

1 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



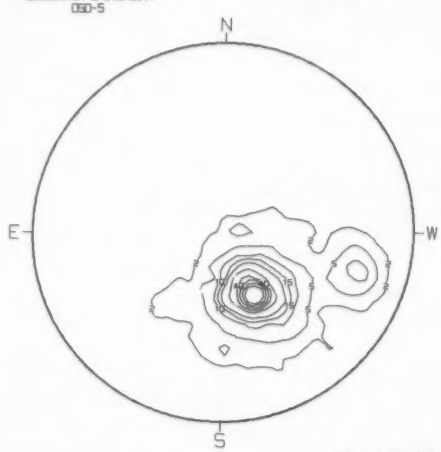
2026-2109 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

4 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



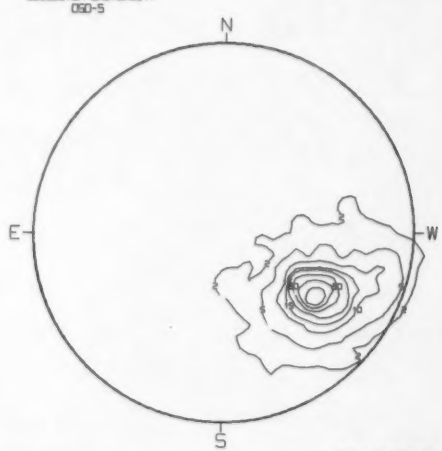
1602-1639 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

7 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



1216-1503 UT

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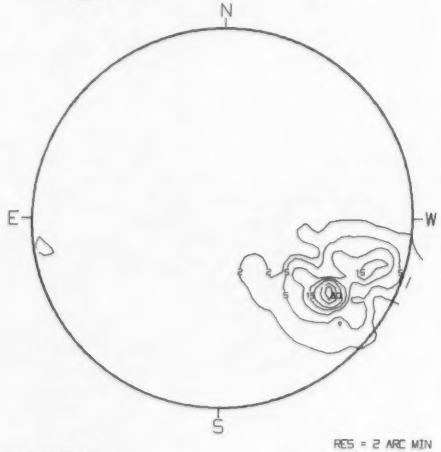
8 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



0011-0145 UT

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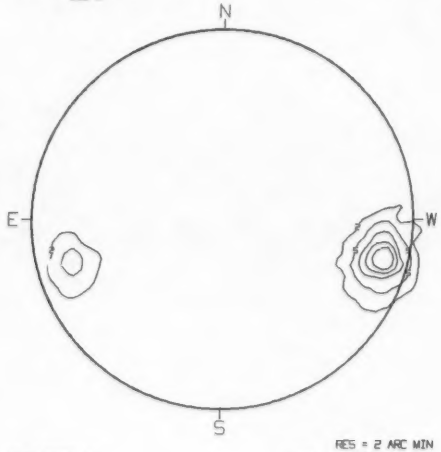
UNIT = 10^{-6}ERG/CM^2/SEC

10 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



1657-1818 UT

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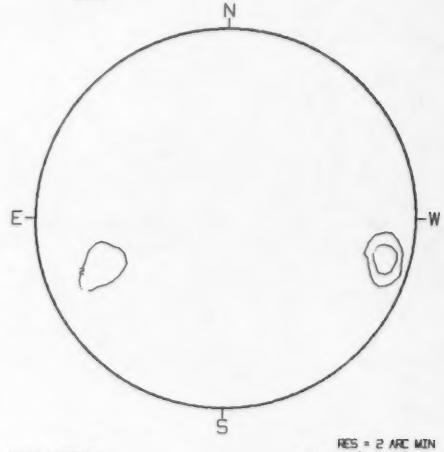
UNIT = 10^{-6}ERG/CM^2/SEC

11 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



1640-1802 UT

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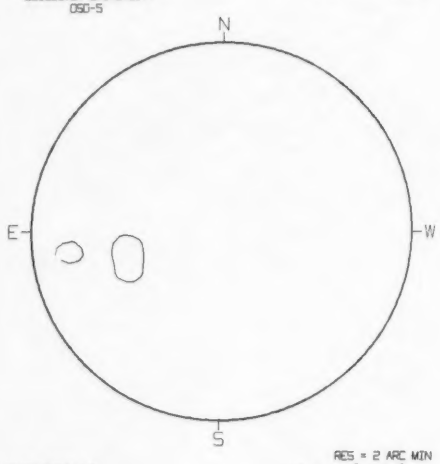
UNIT = 10^{-6}ERG/CM^2/SEC

12 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



2126-2300 UT

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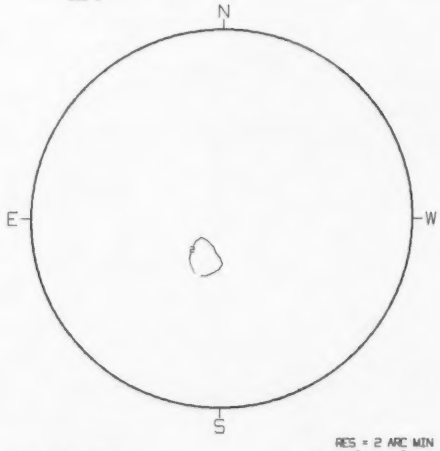
UNIT = 10^{-6}ERG/CM^2/SEC

13 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



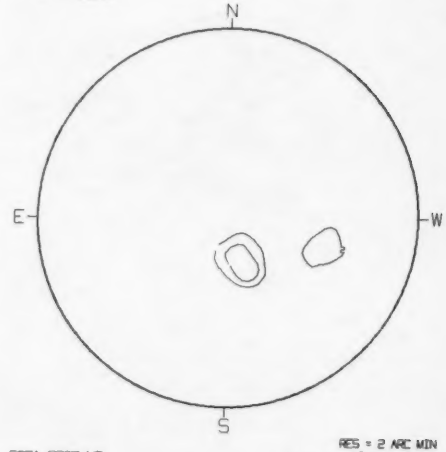
1716-1730 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

17 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



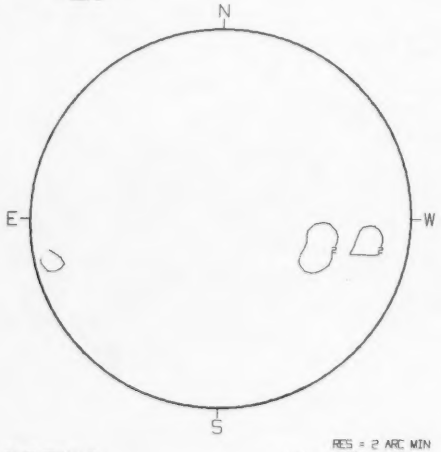
2021-2203 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

19 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



2145-2321 UT

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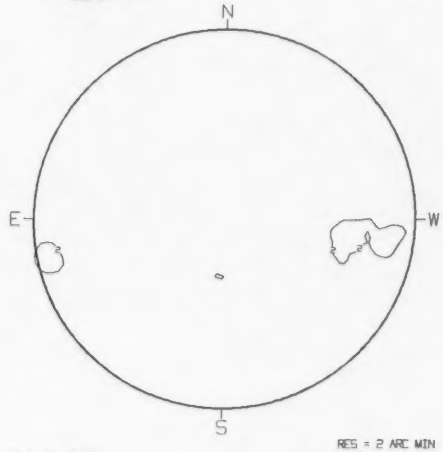
UNIT = 10^{-6}ERG/CM^2/SEC

20 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



1946-2129 UT

RES = 2 ARC MIN
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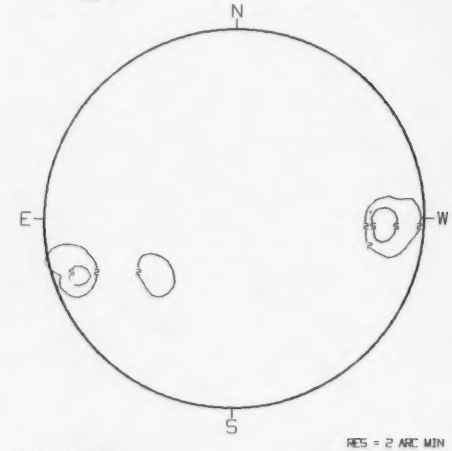
22 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



0742- 841 UT

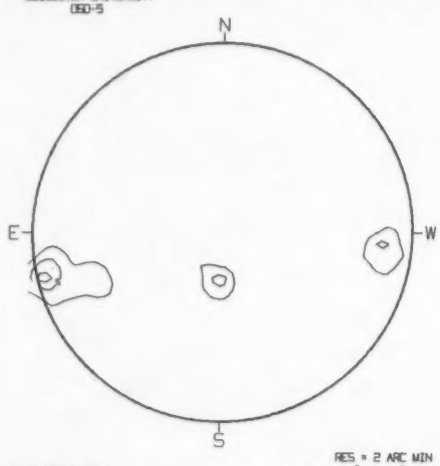
RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

99
Misc
Jul 74

24 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



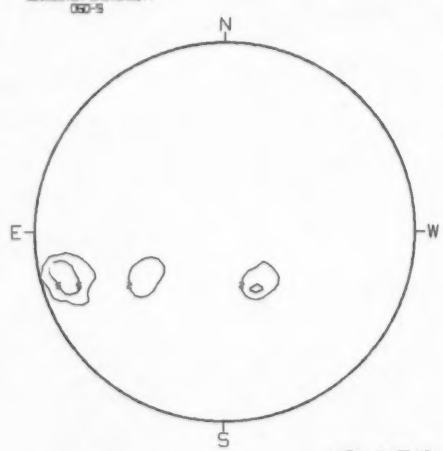
0907-0935 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

25 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



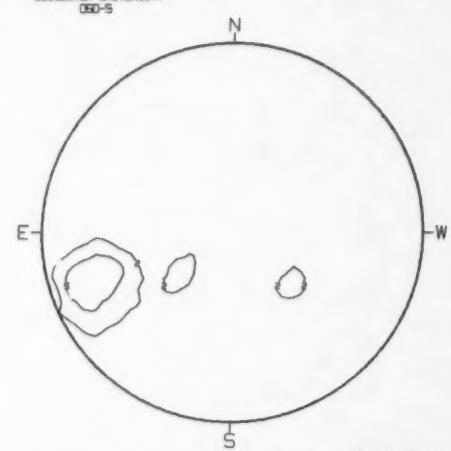
1343-1523 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

26 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



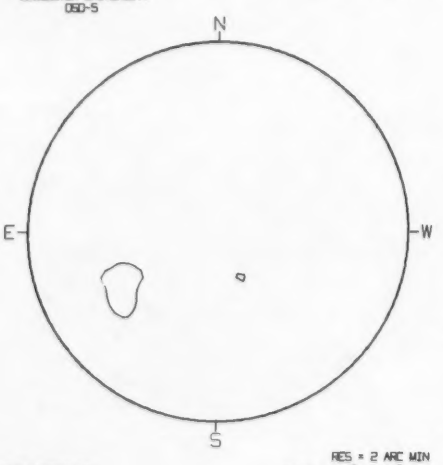
0845-0933 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

28 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



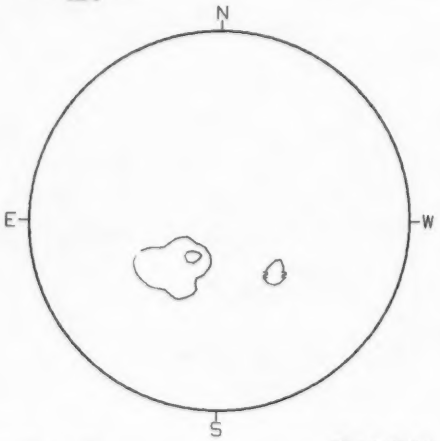
0815-0910 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

29 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



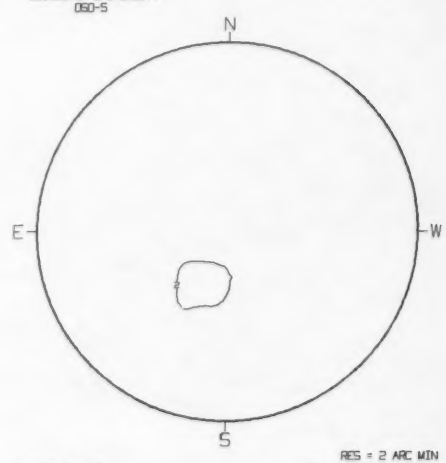
0632-0723 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

30 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



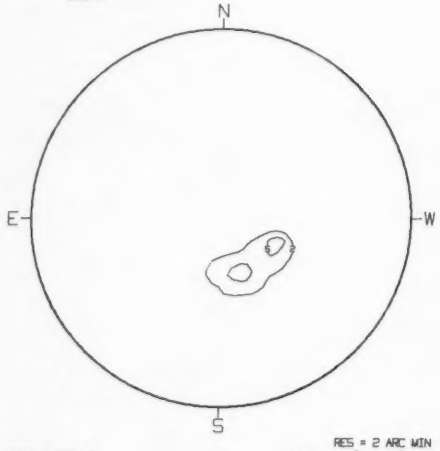
0306-0402 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

31 JULY 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



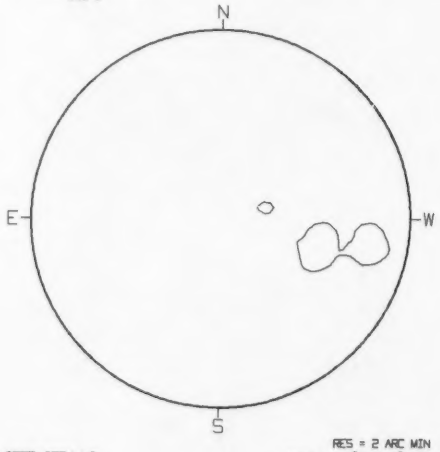
0604-0702 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

16 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



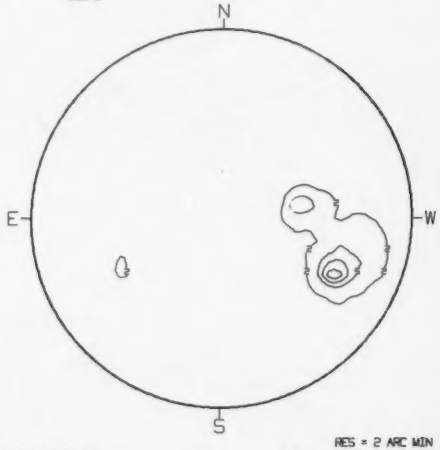
0237-0334 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

17 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



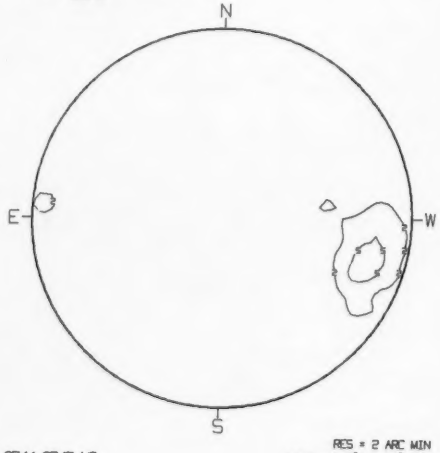
0331-0353 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

18 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



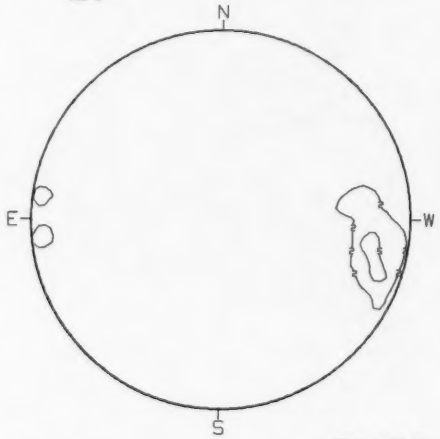
0244-0342 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

19 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



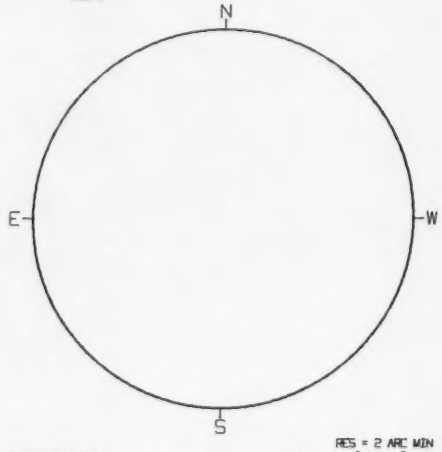
2237-0019 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

21 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



0138-0309 UT

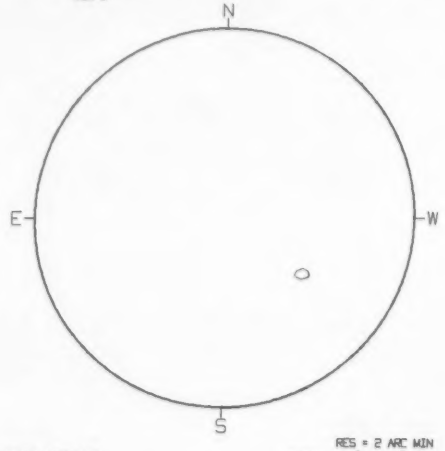
RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

101
Misc
Jul-Aug 74

22 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



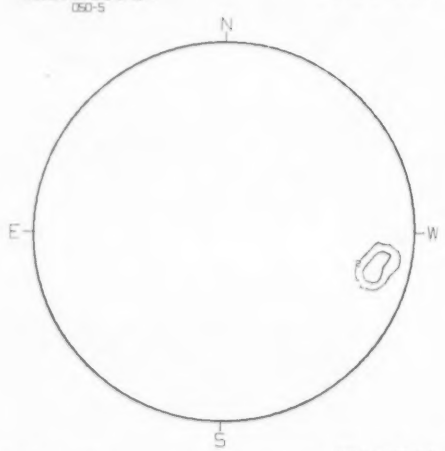
0124-0222 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

25 AUGUST 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



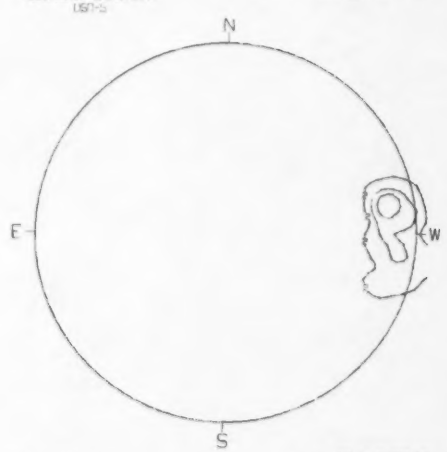
0359-0440 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

21 SEPTEMBER 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



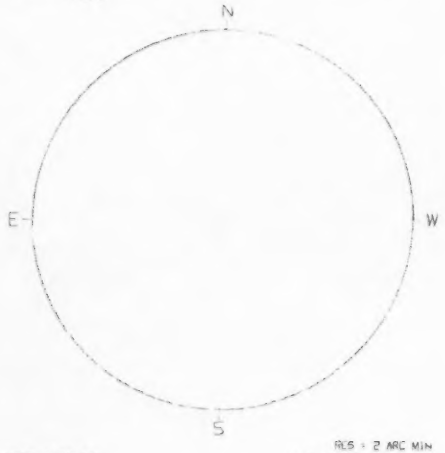
1400-1511 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

25 SEPTEMBER 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6 11·1Å X RAYS



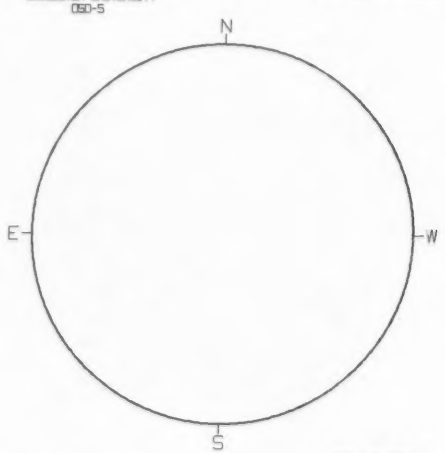
1035-1106 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

27 SEPTEMBER 1974

UNIVERSITY COLLEGE LONDON
LEICESTER UNIVERSITY
OSO-5

9·6-11·1Å X-RAYS



0909-1045 UT

RES = 2 ARC MIN
UNIT = 10^{-6}ERG/CM^2/SEC

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1974

OCT 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
01	0000	0642	CULG							0000	0525	1				IS
			CULG							0056	0642					IIIN,W
			CULG							0144	0145.5	1				IIIG,V
			CULG							0337.5	0339	2	0337.5	0339	1	IIIG,V
			CULG				0605	0642								IS,W
			CULG				0629	0631	1	0628	0637	2	0625	0626	1	IIIGG,V
	2054	2400	CULG							2054	2400	1				IS
			CULG							2134	2400					IIIN,W
			CULG				2252	2253	1	2251.5	2255	2	2252	2254	1	IIIG,V
			CULG							2301	2320	1				II
			CULG				2339		1	2339	2342	1				IIIGG,V
02	0000	0646	CULG							0000	0646					IIIN,W
			CULG							0040	0646	1				IS
			CULG				0050	0646								IS,W
			CULG							0242	0244	1				IIIG
			CULG							0252.5	0254	1				IIIG,U
			CULG				0601.5	0602								IIIG,W
			CULG				0628	0629	1	0628	0629.5	1				IIIG,U
			CULG							2050	2400					IIIN,W
	2050	2400	CULG				2050	2400	1	2050	2400	1				IS
			CULG				2145	2146	2	2145	2146	3				IIIG,U
03	0000	0707	CULG							0000	0120	1				IS
			CULG							0000	0707					IIIN,W
			CULG				0000	0220								IS,W
			CULG				0018.5	0019.5	1	0018.5	0019.5	2				IIIG,U
			CULG							0120	0707					IS,W
			CULG				0130.5		1	0130.5		1				IIIB
			CULG				0159	0200	1	0158.5	0200.5	1				IIIG
			CULG				0203	0203.5	1	0203	0204	1				IIIG,U
			CULG				0619.5	0620.5	1	0619.5	0620.5	1				IIIG,V
			CULG				0621.5	0624.5	1	0621.5	0625	1				IIIGG
	2035	2400	CULG				2035	2400	1	2035	2400	1				IS
			CULG				2135	2203	2	2115	2305	1				CONT
			CULG							2305	2345	1				IS
04			CULG				0000	0438	1	0000	0438	1				IS,DC
	0000	0721	CULG													
			CULG							0037	0438					IIIN,W
			CULG				0438	0721	1	0438	0721	1				IS
			CULG				2050	2400								IS,W
	2050	2400	CULG							2050	2235	2				IS,CONT
			CULG							2050	2400	1				IIIS
			CULG							2235	2400	1				IS,CONT
05			CULG							0000	0615	1				IIIS
	0000	0646	CULG							0000	0105	1				IS
			CULG				0000	0646								IS,W
			CULG							0006	0007	1				IIIG,V
			CULG							0105	0355	1				IS,CONT
			CULG							0157	0158	1				IIIG,V
			CULG							0350.5	0353	2				IIIG,V
			CULG							0355	0600	1				IS
			CULG							0427	0428	1				IIIG,V
			CULG							0600	0646	1				IS,CONT
			CULG							0615	0646	2				IIIS
	2050	2400	CULG							2235	2400					IIIN,W
06	0000	0409	CULG							0045	0409					IIIN,W
	0415	0645	CULG							0508.5	0510	1				IIIG
			CULG							0527		1				IIIB
			CULG							0603	0604					IIIG,W
			CULG							2048	2400					IN,W
	2048	2400	CULG							2048	2400					IIIN,W
07			CULG							0000	0642	1				S,RS,DP
			CULG							0000	0642	1				I,CONT
	0000	0642	CULG							0000	0642					IIIS,W
	2040	2400	CULG							2040	2400	2				IS,CONT
			CULG							2040	2400	1				S,RS,DP
			CULG							2040	2400	1				IIIS
08			CULG							0000	0648	1				IIIS
	0000	0648	CULG							0000	0435	2				IS,CONT
			CULG							0000	0648	1				S,RS,DP
			CULG							0435	0648	2				IS,CONT,DC
			CULG							2054	2400	1				IIIS
	2054	2400	CULG							2054	2400	1				S,RS,DP
			CULG							2054	2400	2				IS,CONT
09	0000	0720	CULG							0000	0720	1				IIIS
			CULG							0000	0720	1				IS,CONT
			CULG							0000	0720	1				S,RS,DP
			CULG							2040	2400	1				IIIS
			CULG							2040	2400	2				IS,CONT,DC
			CULG							2040	2400	2				S,RS,DP
	2040	2400	CULG													
			CULG				2040	2241								IS,W
10	0000	0640	CULG							0000	0640	2				IS,CONT,DC

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1974

OCT 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
10			CULG							0000	0640	1				IIIS
			CULG							0000	0640	2				S,RS,DP
			CULG				0212	0607								IS,W
	2040	2400	CULG							2040	2400	1				IIIS
			CULG							2040	2400	1				IS,CONT
			CULG							2040	2400	1				S,RS,DP
			CULG				2040	2400	1							IIIN
			CULG							2044	2045	1				IIIG,U
			CULG				2314	2317	1	2314	2317	1				IIIG,U
			CULG				2349	2351	1	2349	2351	1				IIIG,U
11			CULG							0000	0720	2				IS,CONT,DC
			CULG							0000	0720	1				S,RS,DP
	0000	0720	CULG							0000	0720	1				IIIS
			CULG				0059.5	0101	2	0059.5	0101	2				IIIG,U
			CULG				0129	0720	1	0129	0720	1				IIIN,U
			CULG				0132	0133	1	0132	0133	2				IIIG,U
			CULG				0211.5		1	0211.5		2				IIIB,U
			CULG				0324	0325	1	0324	0325	1				IIIG
			CULG				0327.5	0328	1	0327.5	0328	1				IIIG
			CULG				0328	0348	1	0335	0720	1				IV
			CULG							0328	0335	2				V
			CULG							0330	0350	2				III,H
			CULG				0402	0453	1	0402	0453	1				IIIGN,U
			CULG				0402	0403	2	0402	0403	2				IIIG
			CULG				0410	0720								IS,W
			CULG				0529	0530	2	0529	0530	2				IIIGG,U
			CULG				0616	0618	1	0615	0618	2				IIIGG,U
			CULG				0705	0707	1	0705	0707	1				IIIGG
			CULG							2049	2400	1				IIIS
	2049	2400	CULG							2049	2400	1				IS,DC
			CULG				2049	2400								IS,W
			CULG							2049	2400	1				S,RS,DP
12			CULG							0000	0639					IIIS,W
	0000	0639	CULG							0000	0639	1				S,RS,DP
			CULG				0000	0639								IS,W
			CULG							0000	0639	1				IS
			CULG							2027	2400	1				IIIS
	2027	2400	CULG							2027	2400	2				IS,CONT
			CULG							2027	2400	1				N,RS,DP
			CULG							2211	2212	2				IIIB
13			CULG							0000	0639					IIIS,W
	0000	0639	CULG							0000	0639	1				IS
			CULG				0028	0028.5	1							FAST DRIFT
	2044	2400	CULG							2044	2400					IIIN,W
			CULG							2044	2400					IS,W
			CULG							2232	2233	2				IIIG,U
14	0000	0615	CULG							0000	0615					IS,W
			CULG							0203		1				IIIG
			CULG							0208	0209	1				IIIG,U
			CULG							0221	0222	1				IIIG
	2049	2400	CULG							2105	2400					IS,W
15	0000	0638	CULG							0000	0638					IW
			CULG							0518		1				IIIB
			CULG							0537	0539	1				IIIG
	2050	2400	CULG													
16	0000	0642	CULG				0025.5	0026.5	1							IIIG
			CULG							0031.5	0037	1				IIIG,V
			CULG							0202	0385	1				CONT
			CULG							0408	0409.5	1				IIIG,V
			CULG							0506	0507					IIIG,W
	2039	2400	CULG							2055	2056					IIIG,W,U
			CULG							2128	2400					IW
			CULG							2208	2212					IIIG,W
			CULG							2242	2243					IIIG,W
			CULG							2248.5	2249.5					IIIG,W
			CULG							2304	2305					IIIG,W
			CULG							2307	2308	1				IIIG
			CULG							2310	2312	2				IIIG
17	0000	0642	CULG							0016	0017	1				IIIG
			CULG							0048	0051	1				IIIG
			CULG							0058		1				IIIB
			CULG							0132.5	0133.5	1				IIIG
			CULG							0319	0635.5					IIIN,W
			CULG							0625	0627	1				IIIG
	2040	2400	CULG							2040	2400	1				IIIN
			CULG							2124	2126	1				IIIG,U
			CULG							2148	2400					IW
18	0000	0717	CULG				0144	0145		0000	0717					IIIN,W
			CULG							0207	0212	2				IIIG
			CULG				0258.5	0159	1	0258.5	0300.5	2				IIIB,U
			CULG							0405	0557	1				IW
			CULG							0605	0607	1				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1974

OCT 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
18	2017	2400	CULG							2019	2020	1				IIIG
			CULG							2215		1				IIIB
19	0000	0340	CULG							0041	0045	1				IIIG6
			CULG							0057	0100	1				IIIG
			CULG							0328	0329	1				IN
	0350	0717	CULG							0350	0717	1				IN
			CULG							0350	0717					IIIN,W
	2010	2400	CULG				2058.5	2103	1	2058	2104.5	1				IIIG
			CULG				2327	2332	1	2327	2332	1				
20	0000	0717	CULG							0121.5		1				IIIB
			CULG				0238	0238.5	1	0238	0238.5	1				IIIG
			CULG				0406	0407	1	0406	0407	1				IIIG
			CULG				0440.5	0443.5		0442	0444					IN
			CULG				0548.5	0550		0548.5	0550					IIIG,W
			CULG				0657.5	0658		0657	0658					IIIG,W
21	0000	0717	CULG							0022	0023	1				IIIG
			CULG							0309	0310.5	1				IIIG
			CULG							0320.5	0322	1				IIIG,U
			CULG							0430	0431.5	1				IIIG
			CULG							0600	0715	1				IIIN
	2215	2400	CULG							2257	2400	1				IIIS
22	0000	0716	CULG							0000	0224	1				IIIS
			CULG							0240	0716					IIIN,W
	2018	2400	CULG							2326.5	2327.5	2				IIIG,U
			CULG				2335.5	2336.5	1	2335	2336.5	1				IIIG
23	0000	0115	CULG													
	0230	0509	CULG													
	0516	0716	CULG													
	2017	2400	CULG							2124.5	2125	1	2124.5	2125.5	1	IIIG,U
24	0000	0717	CULG													
	2018	2400	CULG													
25	0000	0716	CULG													
	2016	2130	CULG													
	2144	2400	CULG													
26	0000	0715	CULG													
	2033	2400	CULG													
27	0000	0716	CULG													
	2016	2400	CULG													
28	0000	0715	CULG							0344.5	0345.5					IIIG,W
			CULG							0410						IIIB,W
	2016	2400	CULG													
29	0000	0600	CULG													
	2033	2400	CULG													
30	0000	0620	CULG													
	2027	2400	CULG													
31	0000	0713	CULG													
	2020	2400	CULG													

SELECTED SOLAR EVENTS

OCTOBER 1974

Culgoora

UT Date 1974. October	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
1	0337	0339	160	1.0	130	0	1}	IIIG, V	
			80	1.2	130	0	1}		
			43.25	1.4	100	-	2}		
	2301	2308	160	{1.0 {0.9	120} 40}	0	1}		Two successive bursts at 80 and 160 MHz.
			80	{1.0 {1.3	120} 40}	0	2}	II	
			43.25	1.2	120	-	2}		
	2339	2342	160	0.9	40	0	2}	IIIGG, V	No event at 43.25 MHz
			80	1.3	40	0	2}		
11	0323	0340	160	0.6	90	0	2}	II	Complex structure accompanied by type IV in same region.
			80	0.7	30	0	3}		
			43.25	0.9	0	-	3}		
16	0031	0037	160	0.9	310	0	1}	IIIG, V	
			80	1.3	320	0	2}		
			43.25	1.7	330	-	1}		

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